U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-110-2013-0035-EA

CASEFILE/PROJECT NUMBER:

SG E34 496
COC-69557 (Bottom hole lease)
COC-65556 (Bottom hole lease)
SG L27 496
COC-69557 (Bottom hole lease)
COC-64814 (Bottom hole lease)
COC-61137 (Bottom hole lease)
COC-68711 (Bottom hole lease)
SG F22 496
COC-64814 (Bottom hole lease)

PROJECT NAME: EnCana Oil and Gas Master Development Plan (MDP) for the SG E34 496, SG L27 796 and SG F22 496

LEGAL DESCRIPTION:

T4S, R96W, Section 34 (SG E34 496; 32 Applications for Permit to Drill (APDs) have been submitted for existing pad)
T4S, R96W, Section 27 (SG L27 496; 32 APDs have been submitted for existing pad)
T4S, R96W, Section 22 (SG F22 496; no APDs have been submitted for new pad)

APPLICANT: EnCana Oil and Gas (USA), Inc. (EnCana)

PURPOSE & NEED FOR THE ACTION: The purpose and need statement for the Proposed Action includes a request by EnCana to drill a total of 64 natural gas wells from two proposed well pad locations. In addition, EnCana has requested BLM include an analysis of environmental impacts related to the construction and development activities for the proposed SG F22 496 location. These activities would include construction and maintenance of the associated well pad location, pipeline and road infrastructure for this location. Because APDs for the SG F22 496 location have not be submitted, approval of the Proposed Action does not authorize drilling additional wells on the proposed SG F22 496 location.

Decision to be Made: The BLM will decide whether or not to approve the MDP, the 32 APDs for the SG E34 496, and the 32 APDs for the L27 496, and if so under what conditions.

SCOPING, PUBLIC INVOLVEMENT, AND ISSUES:
The MDP is that it is located within an area mapped by the BLM and Colorado Parks and Wildlife (CPW) as greater sage-grouse habitat.

Scoping: Scoping was the primary mechanism used by the BLM to identify issues.
Initial scoping was initiated when the project was presented to the BLM WRFO by EnCana to preliminarily discuss the proposed development of the Big Jimmy Unit. Two meetings were conducted on 6/13/2012 and 9/14/2012. Present at the meetings were representatives of EnCana, CPW, and BLM. During the meetings it was determined that the BLM would like to look at a three to five year plan.

Internal scoping was initiated when the project was presented to the White River Field Office (WRFO) interdisciplinary team on 1/29/2013. External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on 6/6/2013.

Issues: All anticipated issues related to perceived impacts to Greater Sage Grouse general and priority habitat have been addressed in the review of the Proposed Action.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: The BLM WRFO received a Notice of Staking (NOS) on 11/1/2010 for the SG E34 496, SG L27 496, and F22 496. Onsites for the SG E34 496, SG L27 496, and F22 496 were conducted on 11/8/2012. On 2/8/2012 the WRFO received 32 APDs for the SG M27 496 (M27 496) located in T4S, R96W, SWSW Section 27. The M27 496 was a proposed new wellpad location with associated road and pipeline. By review of the WRFO, review of the greater sage-grouse mapping completed by BLM and CPW (Colorado Parks and Wildlife), review of Washington Office IM 2010-071 (Greater Sage-Grouse Interim Management Policies and Procedures), and through the scoping meetings conducted on 6/13/2012 and 9/14/2012; it was determined the M27 496 was not currently a viable alternative. Through the meetings and correspondence between BLM and EnCana, it was determined the M27 496 APDs would be replaced with an alternate location. The APDs that were determined to be replacements were the SG L27 496 pad located in T4S, R96W, Section 27. On 1/2/2013, the WRFO received 32 APDs for the SG E34 496 pad, on 1/9/2013 received the MDP via Sundry Notice, and on 1/18/2013 received 32 APDs for the L27 496. As of 1/29/2013 APDs for the F22 496 have not been received. On 1/21/2013 and on 1/30/2013, the BLM WRFO received shapefiles via e-mail from EnCana. The surface owner is EnCana with minerals owned by the BLM. On 2/26/2013, the MDP was updated via Sundry Notice.

EnCana proposes to drill the wells from the SG E34 496, L27 496, and SG F22 496 as proposed in the MDP using a closed loop system; therefore, NEPA alternative analysis using a closed loop system is not required in accordance with Instruction Memorandum No. 2013-033 (IM 2013-033).

As proposed in the MDP and as evaluated in DOI-BLM-CO-110-2013-0035, the following sections (Surface and Ancillary facilities, Resource Considerations Greater Sage-grouse Protection Measures, and Other Wildlife) address wildlife protection measures in accordance with IM 2013-033, I. Open Pits and Open Tanks Containing Freestanding Liquids, II. Chemical and Fuel Tank Secondary Containment Systems, III. Escape Ramps (Open Pits, Cellars, Tanks, and Trenches, and IV. Open-Vent Exhaust Stacks.

The MDP does not contain wildlife protection measures in accordance with IM 2013-033, V. Fence Marking – Reclamation, Well Pad, Production Facility, or Right-of-Way Exclosure Fences Made of Fencing Wire. Though not stated in the MDP or the Surface Use Plan for the SG E34 496 and SG L27 496 APDs; at the final reclamation stage (based on designated Natural Resource Specialist (NRS) Johnson field inspections of abandoned locations), EnCana typically constructs a fence around the perimeter of abandoned well locations.

Proposed Action: EnCana has proposed a five year oil and gas development project that would be located approximately 18 miles north of Parachute, Colorado in Garfield County. The proposal, known as the SG E34 496, SG L27 496, and SG F22 496 MDP, includes expansion of two existing well pads, drilling 32 wells on each location, and construction of associated roads and pipeline infrastructure within the Big Jimmy Unit. The Big Jimmy Unit is 92,930 acres of federally managed and privately owned lands. The proposed area of development would be located in Sections 22, 27, and 34, T4S, R96W. Pipelines associated with the project would tie into an existing pipeline that is located in Sections 2, 3, 11, 14, 23, 24, and 25, T5S, R96W; Sections 19 and 20, T5S, R95W, Sixth Principal Meridian (Figure 1). Surface ownership within the MDP area is entirely private surface owned by EnCana. EnCana would be developing 1,536 mineral acres of Federal oil and gas leases administered by the BLM WRFO. Table 1 below details disturbance estimates for the MDP.

Table 1. Acreage Disturbance for Existing and Proposed Disturbance

Well Pad	Current Pad Size (acres - approximate)	New Pad Disturbance Proposed (Acres)	Pipeline (reroute)	Pipeline (new)	Access Road (30 foot construction width – 22 foot running surface)	Acres disturbed following interim reclamation	Total Disturbance
SG E34 496	3.00	7.40	0.40	6.40	390 foot rerouted = 0.30 acres	See Table 2 below	17.50
SG L27 496	11.00	4.90	NA	NA	NA		15.90
SG F22 496	NA	7.00	NA	5.30 (1,937' long by 120' wide)	(upgrade 1,006 foot of 2-track = 0.70 acres) (new road 336 long by 30 feet wide = 0.20 acres)*		13.20
Total	14.00	19.30	0.40	11.70	1.2		46.60

*Disturbance estimate for the SG F22 496 access is based on EnCana submitted shapefiles. Review of the shapefiles completed by WRFO NRS Johnson on February 27, 2013.

Closed Loop System

The APDs received for the SG E34 496 and SG L27 496 are proposed to be drilled using a closed loop system.

Design Features: EnCana proposes constructing, drilling, completing, and operating the SG E34 496, the SG L27 496 and the SG F22 496 during the late summer of 2013 (after July first) as described below:

SG E34 496

- Existing wellpad with two producing wells
- 32 new wells, developing 512 Federal mineral acres.
- Would access Federal leases: COC-69557 (surface lease), COC-65556 and COC-69557 (Bottom Hole Location (BHL) leases)

SG L27 496:

- Existing wellpad location with one producing well and frac pond
- 32 new wells, developing 512 mineral acres
- Would develop and access Federal leases: COC-68711 (surface lease), COC-69557, COC-68711, COC-61137, and COC-64814 (BHL)

SG F22 496:

- New wellpad location
- 32 new wells, developing 512 mineral acres
- APDs for this location have not been submitted
- Would develop and access Federal leases: COC-64814 (surface lease), and COC-64814 (BHL)

Disturbance associated with each project component is shown in Table 2 below.

Table 2. Proposed Disturbance Associated with each Project Component

Project Feature	Short-term New Disturbance (acres)	Long-term Disturbance – interim reclamation (acres)	Length (feet)	Width (feet)
3 Well Pads (E34 496*, L27 496*, F22 496)	19.5	8 acres	NA	NA
Pipelines	11.7	NA	5,671	120/75
Total	**31.2**	**8**	**5,671**	**120/75****

*Existing well pads proposed to be expanded

** The right-of-way (ROW) width required to install pipelines would be 75 feet for the SG E34 496 lines and 120 feet for the SG F22 496 lines. The L27 496 has no new proposed pipelines.

Ancillary facilities related to the project that would be constructed or upgraded include access roads, gathering pipelines, and a variety of locations for surface production equipment.

In order to protect Greater Sage-grouse nesting habitat, deer, and elk summer ranges, there are existing lease stipulations associated with the following leases: COC-65556, COC-61137, COC-64814, and COC-65555. These lease stipulations are attached as Appendix A as part of the Sundry Notice and available in the SG 8503B-34 E34496 well file located at the WRFO.

Wellpad Construction

Expanding one existing wellpad (SG E34 496) on EnCana surface for 32 Federal wells:

- The current pad size is approximately three acres and would be expanded by approximately seven acres of new disturbance.
- Site would be accessed by existing roads.

Expanding one existing frac pad location (SG L27 496) on EnCana surface for 32 Federal wells:

- The current pad size is approximately 11 acres and would be expanded by approximately five acres of new disturbance.
- Site would be accessed by existing roads.

Constructing one new wellpad (SG F22 496) on EnCana surface for 32 Federal wells:

- The wellpad would be constructed during the summer of 2013.
- Approximately seven acres of new disturbance.
- Site would be accessed by existing roads.

EnCana would comply with all appropriate Federal, state, county, municipal, and local permits before commencing any work.

Surface and Ancillary Facilities:
Surface facilities at each well pad would consist of wellheads, separation units, gas metering units, and above ground condensate and water tanks with approximately 100 to 400 barrel capacities. Multi-well locations would share production equipment, whenever feasible, to minimize surface occupancy/disturbance. Solar panels would be used on-location as an alternate energy source for production equipment.

Telemetry equipment would be used to remotely monitor wells. The use of telemetry would minimize traffic to and from the well locations in order to minimize impacts to wildlife. Self-contained travel trailers may be used on site during drilling operations. Certified Colorado Department of Housing units would be provided for use in the extraction of gas on Colorado Oil and Gas Conservation Commission (COGCC) approved pads. These units would be used by Essential Personnel and will abide by Federal, state, and local regulations which directly pertain to temporary living quarters.

Potable water would be provided by water haulers certified by the Colorado Department of Public Health and Environment. Septic would be held in County approved engineered individual sewage disposal systems (ISDS) Vault and Haul systems. Waste materials generated by and from these units would be contained in wildlife proof containers and will be hauled weekly, or as needed.

All production facilities (storage tanks, loadouts, separators, treating units, etc.) with the potential to leak or spill oil, condensate, produced water, glycol, or other fluids which may be a hazard to public health or safety would be placed within secondary containment structures. Secondary containment structures would consist of corrugated steel containment berms or earthen berms and would be sized to contain a minimum of 150 percent of the storage capacity of the largest tank within the containment. All loading lines would be placed within the

containment structure.

Temporary surface-water delivery lines would be installed in order to reduce truck traffic.

Chemical containers would be clearly labeled, maintained in good condition, and placed within secondary containment. They would not be stored on bare ground, nor exposed to sun and moisture.

Fracing Operations:
EnCana would conduct remote fracing to reduce the size of the pad needed for simultaneous operations. There will be no surface frac lines.
The L27 has no frac lines because the frac operations will use the frac pit.

The E34 will use the water line that will run between the L27 and E34 for frac operations.

Appropriate fencing and netting may be used on temporary fluid pits for the purpose of excluding wildlife. When water quality allows propagation of mosquitos, fresh water storage pits would be treated with biological mosquito controls (from June through September).

Access Road Construction/Maintenance:
The three well pads (SG E34 496, SG L27 496, and SG F22 496) would be accessed from existing roads with the exception of what is noted in Table 1 above.

Access roads would be upgraded and maintained as necessary to prevent soil erosion and to accommodate year-round traffic until final abandonment and reclamation of the well locations.

Drilling/Completions Operations:
EnCana will conduct drilling and completion operations for approximately 13 days per well. Approximately 20 people would be on the location at a time, with up to eight of those working on the rig. EnCana would use temporary living quarters, where feasible, to reduce the amount of traffic to and from drilling and completion locations.

An estimated 8,000 bbl. (barrels) of fresh water would be used during drilling and construction activities per well. During completions an estimated 200,000 bbl. of produced water would be used per well.

Drilling fluids would be contained in a closed loop system. When drilling the locations is finished, the fluids would be dewatered and transferred via truck to another location. No reserve pits to hold produced water would be needed for the closed loop system.

Produced fluids (liquid hydrocarbons) produced during natural gas production operations will be confined to flow back tanks on location. Produced fluids may be recycled and reused in drilling/fracing operations on other area wells or locations. Excess water may be piped or trucked to permitted EnCana-owned disposal wells that are all within the Big Jimmy Unit.

Cuttings would be deposited in a steel cuttings bin (approximately 45ft by 10ft by 12ft) and

cuttings pile. Cuttings deposited in the steel pit would be solidified with sawdust. Cuttings would be moved from the steel bin to the cuttings area. Cuttings would be managed per COGCC regulations. For reclamation the cuttings would be buried on the well locations in the cut slope and capped with three feet of subsoil material, then topsoil would be spread and seeded with an appropriate seed mix.

Once drilling operations are complete, produced water would be transported through waterlines in order to reduce truck traffic to the well sites. Waterlines would be installed in the same trench as the natural gas pipelines which are both described in more detail in the pipeline installation section of this document.

Production Operation:
EnCana would install production equipment with radio telemetry capability, primarily consisting of gas meters, storage tanks, and multi-well separator units on the three well pads.

Pipeline Installation:
EnCana would install approximately 1.07 miles (5,671 feet) of buried natural gas pipelines and water pipelines. Upon completion, the natural gas lines would be used to transport only natural gas. The production water line system would be used to only transport produced water. All waterlines would be buried to a depth of 48-inch depth of cover.

- SG E34 496: Installation of approximately 3,734 feet of existing natural gas buried pipeline and produced water pipeline.
- SG L27 496: No new pipelines.
- SG F22 496: Installation of approximately 1,937 feet of natural gas buried pipelines and produced water pipelines.

Pipeline construction is estimated to take four weeks per mile of pipeline. Water pipelines would be installed concurrently with natural gas pipelines. The right-of-way (ROW) width required to install pipelines would be 75 feet for the SG E34 496 lines and 120 feet for the SG F22 496 lines. EnCana estimates using approximately 1,700 bbl. of freshwater per mile of pipeline for dust suppression during construction of the pipelines.

Water Use:
EnCana estimates that 8,000 bbl. of fresh water would be used per well during construction and drilling activities. For dust suppression, EnCana anticipates using up to 5,000 bbl. of fresh water per location during (May to October) and approximately 1,700 bbl. of fresh water per mile of pipeline. Approximately 1,600 bbl. of fresh water would be used for hydrostatic testing of the pipelines.

Best Management Practices (BMPs):
Stormwater perimeter control(s) on all new facility construction adequate to contain a 100-year storm event. EnCana would use hydraulic erosion control mulch or armoring on all exterior slopes adjacent to waterways. All access roads and facilities other than well pads would be seeded in a timely manner after construction has been completed and seeding of all topsoil on pad construction. EnCana would conduct operations consistent with EnCana's Master

Stormwater Management Plan (SWMP) for the North Parachute Ranch (NPR) (permit # Certificate of Record(COR)-037689, revised May 2008) and Piceance Creek Master SWMP (Permit # COR-039167, revised June 2009), which will continue to be implemented and updated in accordance with applicable state regulations. Methods of stabilization, drainage control, and sediment control would be evaluated to determine what BMPs are appropriate and practical at the time of construction. BMPs would be employed in different combinations during construction activities and phases as conditions warrant. EnCana would implement and adhere to the ConocoPhillips (COP) North Piceance Field Spill Prevention, Control and Countermeasure (SPCC) plan for this project.

Topsoil would be segregated and clearly labeled from other soils during well pad construction. If topsoil is to be stored for longer than six months it will be reseeded with a BLM approved seed mix to maintain soil microbe health and prevent weeds. Native or non-native non-persistent sterile grasses may be used to seed soil stockpiles.

EnCana will apply fugitive dust control measures on the NPR to reduce coating of vegetation and deposition in water sources, including enforcing established speed limits on private EnCana roads.

If noxious weeds are found, they shall be treated in accordance with EnCana's NPR Integrated Vegetation Management Guidance (WWE 2009). All disturbed surfaces would be revegetated with certified weed free seed.

Reclamation: The BLM would be contacted prior to commencement of any reclamation operations.

Immediately upon well completion, the well location and surrounding areas would be cleared of all debris, materials, trash and junk not required for production. All disturbed areas are proposed to be seeded with the EnCana proposed seed mix shown in Table 3 below:

Table 3. Proposed EnCana Seed Mix

Common Name	Scientific Name	Variety	Season	Form	PLS lbs/acre*
Plant Both of the Following (20% Each, 40% Total)					
Bottlebrush Squirreltail	*Elymus elymoides, Sitanion hystrix*	VNS	Cool	Bunch	2.7
Bluebunch Wheatgrass	*Pseudoroegneria spicata, Agropyron spicatum*	Secar, P-7, Anatone, Goldar	Cool	Bunch	3.7
and Plant Two of the Following (15% Each, 30% Total)					
Thickspike Wheatgrass	*Elymus lanceolatus ssp. lanceolatus, Agropyron dasystachyum*	Critana, Bannock, Schwendimar	Cool	Sod-forming	2.5
Slender Wheatgrass	*Elymus trachycaulus, Agropyron trachycaulum*	San Luis	Cool	Bunch	2.5
Western Wheatgrass	*Pascopyrum [Agropyron] smithii*	Arriba, Rosana	Cool	Sod-forming	3.6
and Plant One of the Following (10% Total)					
Big Bluegrass	*Poa ampla*	Sherman	Cool	Bunch	0.3

Canby Bluegrass	*Poa canbyi, P. secunda*	Canbar	Cool	Bunch	0.3
Muttongrass	*Poa fendleriana*	VNS	Cool	Bunch	0.3
and Plant One of the Following (10% Total)					
Letterman Needlegrass	*Achnatherum [Stipa] lettermanii*	VNS	Cool	Bunch	1.7
Columbia Needlegrass	*Achnatherum [Stipa] nelsonii, Stipa columbiana*	VNS	Cool	Bunch	1.7
Green Needlegrass	*Nasella [Stipa] viridula*	Lodorm, Cucharas	Cool	Bunch	1.4
and Plant One of the Following (10% Total)					
Indian Ricegrass	*Achnatherum [Oryzopsis] hymenoides*	Nezpar, Paloma, Rimrock	Cool	Bunch	1.9
Junegrass	*Koeleria macrantha, K. cristata*	North American origin	Cool	Bunch	0.1

OPTIONAL: Any Combination from the Following Species may be Substituted for up to 10% of the Above Grasses (Up to 5% per Grass Species)			
Arrowleaf Balsamroot (forb)	*Balsomorhiza sagittata*	Utah Serviceberry (shrub)	*Amelanchier utahensis*
Mountain Snowberry (shrub)	*Symphoricarpos oreophilus*	Utah Sweetvetch (forb)	*Hedysarum boreale*
Rocky Mountain Beeplant (forb)	*Cleome serrulata*	White Sage (forb)	*Artemisia ludoviciana*
Silvery Lupine (forb)	*Lupinus argenteus*	Woods' Rose (shrub)	*Rosa woodsii*
Sulfur Flower (forb)	*Eriogonum umbellatum*	Yarrow (forb)	*Achillea millefolium*

*Based on 60 Pure Live Seeds (PLS) per square foot, drill-seeded. Double this rate (120 PLS per square foot) if broadcast or hydroseeded.

SEED MIX 6

Cultivar	Common Name	Scientific Name	Application Rate (lbs PLS/acre)
UP Plateau	Sandberg bluegrass	*Poa secunda ssp. sandbergii*	0.5
San Luis	Slender Wheatgrass	*Elymus trachycaulus ssp. trachycaulus*	2
Sherman	Big Bluegrass	*Poa secunda ssp. ampla*	1
Bromar	Mountain Brome	*Bromus marginatus*	2
Maple Grove	Lewis Flax	*Linum lewisii*	1
Bandera	Rocky Mountain Penstemon	*Penstemon strictus*	0.5
	Alternates		
Canbar	Canby Bluegrass	*Poa secunda ssp. canbyi*	0.5
	Arrowleaf Balsamroot	*Balsamorhiza sagittata*	3

Interim:

Well pads would be reclaimed except for the working area which is usually 100 feet off wellheads and 10 to 15 feet around production equipment. Access roads would be maintained as necessary to prevent soil erosion and accommodate year round traffic. Topsoil would be

redistributed on areas not necessary for operations and production; these areas would be disked and re-seeded with a BLM) approved seed mix.

All cuttings areas and detention ponds would be closed as soon as possible. If netting has been installed it will remain in place until deemed appropriate to remove in order to protect migratory waterfowl.

Slash/brush would be pushed to the terminal edge of disturbance along probable discharge edges as vegetation sediment control and during the life span of the site and kept in place to cold compost for final reclamation.

Pipeline Reclamation:

When the pipeline and waterline installation phase of the project is completed, the ROW would be restored as close as possible to pre-construction conditions. Topsoil would be redistributed as close to original salvage depths as possible. In areas with pre-existing rocky surface material, the stored rock will be spread over the ROW to maintain a surface appearance to that of adjacent undisturbed terrain. Every effort will be made to install permanent erosion control measures after re-contouring is complete. Any brush that was shredded will be spread evenly across the ROW. Seeding will take place with a BLM approved seed mix. After seeding is complete the temporary BMPs will be replaced with permanent BMPs and monitored for any malfunctions. The BMPs will continue to be inspected and maintained and any areas that do not have re-growth will be reseeded as necessary until final stabilization is achieved.

The revegetation contractor is responsible for sediment and pollution discharge control for preconstruction, construction, and reclamation activities. This includes, but is not limited to sediment removal from bar ditches, sediment traps, culvert inlets and culvert outlets. The following reclamation practices will be implemented:

1. Finish grading, drainage, and stormwater control and soil preparation per Stormwater Site Plans, including but not limited to, topsoil conservation/topsoil segregation, windrow, surface roughening, land-forming/land grading and water bars

2. Seed bed preparation: topsoil will be ripped to remove compaction up to a depth of 12 inches.

3. Hydraulic amendment, seed, erosion control blanket and erosion control mulch applications

4. Broadcast amendments, drill seeding and certified weed free straw crimping on slopes 2.5:1 or less.

5. Hydraulic amendment, seed and erosion control mulch applications on remaining areas and any areas found to be deficient

6. Seeding contractor is responsible for acquiring straw that is harvested in a manner to reduce volunteer winter wheat. Wood mulch will also be considered.

7. In cases of winter wheat germination above 30 percent canopy cover, it is the seeding contractor's responsibility to ensure the winter wheat does not go to head or compete with the desired species. If there is more winter wheat than desirable species, reseeding will be required.

8. If for some reason EnCana decides to abandon the pipeline during final reclamation it would be cut and capped. The pipeline would be left in place to avoid causing surface disturbance.

Well plugging & abandonment, Final Reclamation:
Dry/non-producing wells would be plugged, abandoned, and reclaimed. Upon abandonment, each borehole would be plugged, capped, and its related surface equipment removed. Subsurface pipelines would be plugged at specific intervals. A Sundry Notice would be submitted to the BLM that describes the engineering, technical, and/or environmental aspects of final plugging and abandonment. This notice would describe final reclamation procedures and mitigation measures associated with the final reclamation. The BLM and COGCC standards for plugging would be followed. A configuration diagram, a summary of plugging procedures, and a job summary with techniques used to plug the wellbore would be included with the Sundry Notice.

During final reclamation or if the well is abandoned or a dry hole, the well pad(s) and access road would be re-contoured to their original contours. Topsoil would be evenly redistributed and disked. Prior to reseeding, all surfaces would be roughened and slash/brush removed during construction would be evenly redistributed back onto the well pad location. Reclamation of the well pad and access road will be performed as soon as practical after final abandonment and reseeding operations will be performed in the fall or spring following completion of reclamation operations. The well pad(s) would be reseeded with a BLM-approved seed mix. All Stormwater management BMPs would be removed during final reclamation. Perimeter wattles would remain in place until vegetation establishment meets minimum requirements established by EnCana in the SWMP. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc. EnCana would continue to implement its Noxious Weed Management Plan for the NPR.

RESOURCE CONSIDERATIONS

Greater Sage-grouse Protection Measures: The proposed disturbance features (e.g., well pads, pipelines and road corridors) would be located within occupied and priority habitat areas as mapped by BLM and Colorado Parks and Wildlife (CPW) for Greater Sage-grouse (Figure 2). In order to reduce the likelihood that sage-grouse populations would decline near the project area, EnCana would continue to implement the following protection measures that EnCana has developed for the North Parachute Ranch in cooperation with CPW.

1. Raptor perch deterrents would be installed on cross arms of power poles and other documented raptor perches, such as radio towers where birds are noted to perch.

2. Monitor all structures exceeding six feet in height for the presence of perching raptors or ravens

3. Reasonable efforts would be made to organize transportation and access routes that minimize traffic volumes and avoid suitable sagebrush habitats to the greatest extent practicable.

4. Upon completion of new disturbance, EnCana would leave the new disturbance area undisturbed for a minimum of two, and preferably three, full sage-grouse Critical Habitat Seasons (April 15th to August 1st) during which no new disturbance would be conducted.

5. A 0.6 mile radius "No Disturbance" buffer would be applied around active lek sites (documented activity within the last 5 years) from 5:00 a.m. to 9:00 a.m., March 15th through May 15th.

6. Where practicable, traffic and other disturbances would be restricted after sunset when sage-grouse are congregating around the lek until 9:00 a.m. the following morning when birds depart the lek site.

7. A 0.6 mile "Restricted Surface Occupancy" buffer would be applied for active lek sites.

8. A "Restricted Surface Occupancy" buffer would be applied to all forms of new disturbance that would alter the vegetative structure or topography or would result in the addition of surface structures.

9. The BLM would be notified of any new disturbance within the "Restricted Surface Occupancy" buffer.

10. Site disturbance would use topographic features whenever possible to shield leks from new disturbance.

11. In occupied sage-grouse habitat well site visitation would be restricted to occur between the hours of 9:00 a.m. and 4:00 p.m. during the lekking season (March 15th to May 15th).

12. Pipeline construction and installation would be scheduled outside the Critical Habitat Season.

13. New disturbance would be restricted within nesting and brood-rearing habitat as much as possible from April 15th to July first.

14. Well maintenance will not be considered new disturbance, but would be minimized to the extent practicable during the Critical Habitat Season.

15. EnCana would provide the CPW and BLM notice of well maintenance and would maintain records of these operations.

16. Multiple rig moves would not occur simultaneous; however, EnCana would use

reasonable efforts to schedule rig moves outside of the Critical Habitat Season.

17. Interim reclamation would be completed as quickly as possible to redevelop ground cover that provides for secure ground movements of sage-grouse and is an effective precursor to the reestablishment of appropriate sagebrush cover.
18. Disturbances exceeding 15 feet in width in mapped sage-grouse priority occupied habitat would be reseeded with local sagebrush seed, where topography and weather conditions allow safe access to do so. Detailed guidelines and practices for interim and final reclamation are outlined in EnCana's NPR Integrated Vegetation Management Guidance (WWE 2009).

Raptors: WestWater Engineering has conducted annual raptor nest surveys on the NPR since 2006. Seven active nests sites and six unoccupied nest sites have been observed within 0.25 miles of the proposed project area. Six of the active nests have been occupied by Red-tailed Hawks and one nest has been occupied by a Long-eared Owl during the 2012 nesting season.

Prior to construction during 2013 or a subsequent year the nest status would be verified by a qualified biologist. If nesting is observed and construction or drilling activities are planned the following temporal and spatial restrictions would be applied for activities near active nests (Table 4) based on BLM stipulations (BLM 1997), CPW recommendations (Craig 2002; Klute 2008) and literature review of nesting season timing for raptors in the Roan Plateau region (Andrews and Righter 1992; and Kingery 1998). Table 4 below shows timing and buffer recommendations for active raptor nests.

Table 4. Timing and buffer recommendations for active raptor nests

Species	Buffer Zone	Seasonal Restriction
American Kestrel	*	*
Bald Eagle	0.50 mile	15 October – 31 July
Burrowing Owl	150 feet	15 March – 31 October
Cooper's Hawk	0.25 mile	1 April – 15 August
Ferruginous Hawk	0.50 mile	1 Feb – 15 July
Flammulated Owl	0.25 mile	1 April – 1 August
Golden Eagle	0.50 mile	15 December – 15 July
Great Horned Owl	*	*
Long-eared Owl	0.25 mile	1 March - 15 July
Northern Goshawk	0.50 mile	1 March – 15 September
Northern Harrier	0.25 mile	1 April – 15 August
Northern Saw-whet Owl	0.25 mile	1 March – 15 July
Osprey	0.25 mile	1 April – 31 August
Peregrine Falcon	0.5 mile	15 March – 31 July
Prairie Falcon	0.5 mile	15 March – 15 July
Red-tailed Hawk	0.33 mile	15 February - 15 July
Sharp-shinned Hawk	0.25 mile	1 April – 15 August
Swainson's Hawk	0.25 mile	1 April - 15 July

*Great Horned Owls and Kestrels are relatively tolerant of human activity. Keep activity to a minimum during breeding season.

Other Wildlife:
EnCana will continue to implement their wildlife mitigation plan for the NPR.

The following protection measures are outlined in the wildlife mitigation plan:

1. EnCana will perform biological site surveys (on-site) for each new development, using the most recent data sets for wildlife and aquatic resources.

2. EnCana will conduct regular contractor and employee training with respect to wildlife awareness.

3. Simultaneous drilling and completion activities to shorten the disturbance time necessary to drill, complete, and bring the pad to production.

4. Appropriate fencing and netting on temporary fluid pits for the purpose of excluding wildlife. When water quality may allow the propagation of mosquitoes, then fresh water storage pits would be treated wtih biological mosquito controls (from June through September).

5. All production equipment with a chimney, vent, or stack would be fitted with a device to prevent birds from entering the space.

6. Trench plugs (sloped to allow wildlife or livestock to exit the open pipeline trenches should they enter) at known wildlife or livestock trails to allow safe crossing on long spans of open trench.

7. Avoid disturbance to big game (American elk and mule deer) production areas (from April 15 to July 15) and winter range (January 1 to April 15) wherever possible; however, this will be a secondary consideration to preserving sage-grouse habitat.

8. Trash would be contained in enclosed, locking garbage receptacles or implement a strict daily trash removal regime on each temporary or permanent work location.

REFERENCES:

Andrews, R., and R. Righter. 1992. Colorado Birds: A Reference to Their Distribution and Habitat. Denver Museum of Natural History, Colorado.

BLM. 1997. Record of Decision and Approved White River Resource Area, Resource Management Plan. U.S. Bureau of Land Management, Meeker, Colorado.

Craig, Gerald R. 2002. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. Colorado Division of Wildlife, Denver.

Kingery, H. E. 1998. Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership, Colorado Division of Wildlife, Denver.

Klute, D. 2008. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. Colorado Division of Wildlife, Denver.

Righter, R., R. Levad, C. Dexter, and K. Potter. 2004. Birds of Western Colorado Plateau and Mesa Country. Grand Valley Audubon Society, Grand Junction, Colorado.

WWE. 2009. North Parachute Ranch, Integrated Vegetation Management Plan: Reclamation and Noxious Weed Control. WestWater Engineering, Grand Junction, Colorado.

No Action Alternative: The EnCana Oil and Gas MDP (SG E34 496, SG L27 796 and SG F22 496) would not be approved, the wellpads associated with the MDP would not be constructed, the pipelines would not be installed, and the wells would not be drilled.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

Alternative Wellpad Locations Considered:

SG E34 496

- Construct a new pad on Barnes Ridge was considered, but not carried forward due to impacts on sage grouse habitat and drilling reach limitations.
- Considered expanding DW P28 496, but was not carried forward because the project would double existing disturbance which would not be feasible due to topography and drilling reach limitations.
- Construct a new wellpad on the ridge to the east of Short Ridge, but was not carried forward because this location would require greater overall disturbance.

SG L27 496

- The original location chosen by EnCana was the SG M27 496, which would have been a new wellpad. EnCana chose to expand an existing frac pad located north of the original proposed SG M27 496 wellpad.
- Expand the SG E34 496, but this would double existing disturbance, which would not be feasible due to topography. There would also be drilling reach limitations at this location.
- Expand the DW P28 496 wellpad, but this would also double the existing disturbance which is not feasible due to topography. There would also be drilling reach limitations.
- Construct new wellpad in the valley to the east. This is not feasible due to the amount of fill required to balance the cut.
- Construct new pad on ridge east of Short Ridge, this was not considered further because of disturbance to sage grouse habitat and an existing pipeline corridor.

SG F22 496

- Expand existing SG N22 496 wellpad. This alternative would double existing disturbance, which would not be feasible due to topography.
- Construct a new wellpad on Barnes Ridge. This location was not considered further due to impacts to sage grouse habitat and drilling reach limitations.

- Construct new wellpad on the ridge east of Short Ridge. This would require greater overall disturbance and there is an existing pipeline corridor.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (White River ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: "Make Federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

Standards for Public Land Health: In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis (EA). These findings are located in specific elements listed below.

Cumulative Effects Analysis Assumptions: Cumulative effects are defined in the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.7) as "...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Table 5 lists the past, present, and reasonably foreseeable future actions within the area that might be affected by the Proposed Action; for this project the area considered was the Natural Resources Conservation Service (NRCS) 5th Level Watershed. However, the geographic scope used for analysis may vary for each cumulative effects issue and is described in the Affected Environment section for each resource.

Table 5. Past, Present, and Reasonably Foreseeable Actions

Action Description	STATUS		
	Past	Present	Future
Livestock Grazing	X	X	X
Wild Horse Gathers	No	No	No
Recreation	No	No	No
Invasive Weed Inventory and Treatments	X	X	X
Range Improvement Projects : Water Developments Fences & Cattleguards	X	X	X
Wildfire and Emergency	X	X	X

Action Description	STATUS		
	Past	Present	Future
Stabilization and Rehabilitation			
Wind Energy Met Towers			X
Oil and Gas Development: Well Pads Access Roads Pipelines Gas Plants Facilities	X	X	X
Power Lines	X	X	X
Oil Shale	X	X	X
Seismic	X	X	X
Vegetation Treatments	X	X	X

Affected Resources:

The CEQ Regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. Table 6 lists the resources considered and the determination as to whether they require additional analysis.

Table 6. Resources and Determination of Need for Further Analysis

Determination[1]	Resource	Rationale for Determination
Physical Resources		
PI	Air Quality	See discussion below.
PI	Geology and Minerals	See discussion below.
PI	Soil Resources*	See discussion below.
PI	Surface and Ground Water Quality*	See discussion below.
Biological Resources		
PI	Wetlands and Riparian Zones*	See discussion below.
PI	Vegetation*	See discussion below.
PI	Invasive, Non-native Species	See discussion below.
PI	Special Status Animal Species*	See discussion below.
NI	Special Status Plant Species*	The Parachute Creek member of the Green River Formation lies approximately 1.41 aerial miles south of the Proposed Action. The Parachute Creek member is known to support special status plant species. Due to the distance of potential habitat from the project area,

Determination[1]	Resource	Rationale for Determination
		there are no anticipated impacts associated with the Proposed Action.
PI	Migratory Birds	See discussion below.
PI	Aquatic Wildlife*	See discussion below.
PI	Terrestrial Wildlife*	See discussion below.
NP	Wild Horses	The proposed project is not located within the Piceance-East Douglas Herd Management Area, the North Piceance or West Douglas Herd Areas.
Heritage Resources and the Human Environment		
NP	Cultural Resources	Class III cultural inventory (Davenport 2013; McDonald 2007; Reed 2006a,2006b) identified no new cultural resources in the proposed project area.
PI	Paleontological Resources	See discussion below.
NP	Native American Religious Concerns	No Native American Religious Concerns are known in the area, and none have been noted by Northern Ute Tribal authorities. Should recommended inventories or future consultations with Tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures may be undertaken.
PI	Visual Resources	See discussion below.
PI	Hazardous or Solid Wastes	See discussion below.
NI	Fire Management	The BLM does not manage fires on private lands. Colorado law identifies the sheriff as the fire warden for the county and that individual ultimately has the responsibility for controlling and extinguishing wildfire within that county. The Proposed Action will not affect the implementation of the NW Colorado Fire Program Area Fire Management Plan.
NI	Social and Economic Conditions	There would not be any substantial changes to local social or economic conditions.
NP	Environmental Justice	According to the most recent Census Bureau statistics (2000), there are no minority or low income populations within the WRFO.
NP	Lands with Wilderness Characteristics	There are no lands with wilderness characteristics identified in or near the Proposed Action.
Resource Uses		
NP	Forest Management	No woodlands will be removed as a result of the Proposed Action.
PI	Rangeland Management	See discussion below.
PI	Floodplains, Hydrology, and Water Rights	See discussion below.
NP	Realty Authorizations	The Proposed Action is located on private lands; therefore, no right-of-way would be needed.
NI	Recreation	There is no public recreation access to the private surface lands where the Proposed Action is located.

Determination[1]	Resource	Rationale for Determination
NI	Access and Transportation	There is no public access to the private surface lands where the Proposed Action is located.
NP	Prime and Unique Farmlands	There are no Prime and Unique Farmlands within the project area.
Special Designations		
NP	Areas of Critical Environmental Concern	Trapper Creek is the nearest ACEC which is located 7.34 miles to the southeast of the Proposed Action. There are no anticipated associated impacts.
NP	Wilderness	There are no designated Wilderness areas located near the Proposed Action.
NP	Wild and Scenic Rivers	There are no Wild and Scenic Rivers in the WRFO.
NP	Scenic Byways	There are no Scenic Byways within the project area.

[1] NP = Not present in the area impacted by the Proposed Action or Alternatives. NI = Present, but not affected to a degree that detailed analysis is required. PI = Present with potential for impact analyzed in detail in the EA.
* Public Land Health Standard

AIR QUALITY

Affected Environment: The Proposed Action is an attainment area for national and state air quality standards, based on designated non-attainment areas for criteria pollutants published by the Environmental Protection Agency (EPA 2013). The Proposed Action is also located more than 10-miles from any special designation airsheds or non-attainment areas. Non-attainment areas are designated by U.S. Environmental Protection Agency (EPA) as having air pollution levels that persistently exceed the national ambient air quality (NAAQ) standards. Projects that could impact special designation areas and/or non-attainment areas may require special consideration from the Colorado Department of Public Health and Environment (CDPHE) and the EPA. The closest special designation areas are Dinosaur National Monument which is located northwest of the project area (designated Class II airshed with Prevention of Significant Deterioration (PSD) with thresholds for sulfur oxides and visibility), and the Mount Zirkel and Flat Tops Wilderness Areas located east of the Proposed Action (designated Class I areas). The closest non-attainment area in Colorado is along the Front Range corridor and it is non-attainment for ozone. General conformity regulations require that federal activities do not cause or contribute to a new violation of NAAQ standards; that actions do not cause additional or worsen existing violations of the NAAQ standards; and that attainment of these standards is not delayed by federal actions in non-attainment areas.

The Proposed Action is in Garfield County within the Western Counties Monitoring Region of Colorado (APCD 2010). Local air quality parameters including particulates are measured at monitoring sites located at Meeker, Rangely, Dinosaur and Ripple Creek Pass near the Flat Tops Wilderness Area. Ozone data have been collected in Meeker and Rangely since 2010. The closest location for an Interagency Monitoring of Protected Visual Environments (IMPROVE) site is near the Flat Tops Wilderness, northeast of the Project Area. IMPROVE sites measure visibility impairment from air borne particles.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action would result in low and short-term impacts on air quality during construction, drilling, completion and, to a lesser extent, from vehicles and gas processing and compression facilities during the production phase. Increases in the following criteria pollutants would occur due to combustion of fossil fuels during construction activities: carbon monoxide, ozone (secondary pollutant formed photochemically from volatile organic compounds (VOCs) and nitrogen oxides (NOx)), nitrogen dioxide, and sulfur dioxide. Ozone advisories and alerts were issued in the winter of 2011 and 2013 for nearby Rio Blanco County based on data collected from the Rangely monitoring site. Ozone can cause breathing difficulties and worsen respiratory infections especially in the elderly, the young and those with pre-existing ailments such as asthma.

Additional low, short-term impacts to air quality may occur due to venting or flaring of gas from wells and VOCs from pits, storage and treatment of cuttings, and from tanks during drilling and completion activities. Venting and/or flaring of natural gas is typically done for short periods of time in order to determine potential production amounts and characterize the quality of the gas. If the exploratory wells are successful, VOCs including hazardous air pollutants (HAPs) commonly associated with oil and gas production (benzene, toluene, ethylbenzene, xylene, and n-hexane) will be released from tanks, separation equipment and due to transportation of natural gas, produced water and condensate by pipeline or trucks. The amount of these releases are difficult to estimate, but would be within CDPHE air permit limits estimated in tons per year. Non-criteria pollutants (NAAQ standards have not been set for non-criteria pollutants), such as nitric oxide, air toxics (e.g. benzene), and total suspended particulates may experience slight, temporary increases as a result of the Proposed Action.

Soil disturbance resulting from construction, heavy equipment, and drill rigs is expected to cause increases in fugitive dust and inhalable particulate matter, specifically particulate matter (PM) 10 microns (μm) or less (PM_{10}) and particles 2.5 μm or less ($PM_{2.5}$). Particulate matter is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. More than 70 percent of PM_{10} (coarse particles) is created from windblown dust and soil from roads, fields and construction sites. A smaller percentage of coarse particles comes from automobile and diesel engine exhaust, soot from wood fires, and sulfates and nitrates from combustion sources such as industrial boilers (CAQCC 2011). Dust production is the most likely during the construction and drilling phases, especially when conditions are dry and/or windy. Particulate matter is the major contributor to reductions in visibility, due to particulates ability to scatter or absorb light. Particulate matter can also have human health impacts.

Fugitive dust emissions would likely cause low, short-term impacts to local air quality, specifically visibility. Once the wells go into interim reclamation topsoil removed during road construction would be redistributed and stabilized alongside the road and the pads would also be recontoured and stabilized. As vegetation establishes in the reclaimed areas, dust production will occur only when vehicles travel on the access roads to service the wells. The increase in airborne particulate matter from this project is not expected to exceed CAAQ or NAAQ standards on an hourly, 8-hour average or daily basis.

It is unlikely that the headwaters of Piceance Creek where the Proposed Action is located would be in a future non-attainment area for ozone. This is due to the distance from Rangely; that Piceance Creek is not likely to be impacted by emissions from the Uinta and Yampa River Basins; and local climate conditions on the Roan Plateau favor dispersion of pollutants that might form ozone.

In summary, soil disturbance resulting from construction of pads and roads and drilling is expected to cause increases in fugitive dust and inhalable particulate matter in the project area and immediate vicinity may contribute to reductions in regional visibility. In addition, increases in the following criteria pollutants: carbon monoxide, VOCs, ozone, nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels during exploration and production activities. Non-criteria pollutants such as carbon dioxide, methane and nitrous oxides, air toxics (e.g. benzene), total suspended particulates (TSP), and increased impacts to visibility and atmospheric deposition may also increase as a result of the Proposed Action. Even with these increased pollutants the Proposed Action is unlikely to result in an exceedance of NAAQ and Colorado ambient air quality (CAAQ) standards, and is likely to comply with applicable PSD increments and other significant impact thresholds.

Cumulative Effects: The cumulative impacts area for the Proposed Action is the two-county area (Rio Blanco and Garfield Counties). Principal air pollution sources in the two-county area include emissions from motor vehicles, oil and gas development, coal-fired power plants, coal mines, sand and gravel operations, windblown dust, and wildfires and prescribed burns (CAQCC 2011). Facility emissions in the two-county area are dominated by emissions related to oil and gas exploration, processing, or transportation. Due to emission sources in the Piceance, White River and in the nearby Uinta and Yampa River Basins, VOCs, nitrogen oxides, and dust (particulate matter) are likely to increase into the future. With the exception of ozone, overall air quality conditions in Rio Blanco and Garfield Counties are likely to continue to be in attainment of NAAQ standards due to effective atmospheric dispersion. Since 2010, the Rangely and Dinosaur areas in Northwestern Colorado have measured high values of ozone during static air events. High ozone values are likely due in part to VOCs and nitrogen oxides emitted by oil and gas development in the Uinta basin, near Rangely and from power plants in Utah.

Since 2010 ozone data have been collected at the Rangely air quality monitoring site and this site has measured values of 8-hour values for ozone above the NAAQ ozone standard of 75 ppb. These values have not been high enough to lead to an exceedance of NAAQ standards until this year. Maximum 8-hour average ozone values measured at Rangely in January and February of 2013 are likely to result in exceedance of the NAAQ standards, since the fourth highest value for 2013 is already 91 ppb and the average of the fourth highest values from 2011-2013 is currently 77 ppb. Additional regulation of emissions will be applied to BLM permitted oil and gas development within any future designated non-attainment area. As described above EPA and CDPHE are responsible for designating non-attainment areas and would likely require performance standards and practices in this area to ensure future compliance with NAAQ standards.

The Proposed Action is unlikely to contribute to the exceedance of NAAQ standards for ozone in the Rangely and Dinosaur areas since the predominant wind patterns in the Roan Plateau and

Piceance Creek basins blow from southwest to northeast. The Meeker air quality site to the northeast of the Proposed Action has not measure an exceedance of NAAQ standard and the average of the fourth highest value for 8-hour ozone for 2010-2012 was 64 ppb. Therefore this action is unlikely to lead to a violation of NAAQ standards for ozone or contribute to the air quality conditions leading to the exceedance of standards measured in Rangely or Meeker.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Impacts to air quality would not occur from the No Action Alternative.

Cumulative Effects: Impacts would be similar to those described for the action alternative.

Mitigation: The following should be added as conditions of approval (COAs):

1. EnCana will limit unnecessary emissions from point or nonpoint pollution sources and prevent air quality deterioration from necessary pollution sources in accordance with all applicable state, federal and local air quality law and regulation.

2. EnCana will treat all access roads with water and/or a chemical dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. Any technique other than the use of freshwater as a dust suppressant on BLM lands will require prior written approval from BLM.

GEOLOGY AND MINERALS

Affected Environment: Surficial geologic formation of SG E34 496 and SG L27 496 well pads is the Uinta of the Green River Formation and the SG F22 496 is located in the alluvium. EnCana's targeted zone is in the Mesa Verde. During drilling potential water, oil shale, oil, gas, and coal resources will be encountered from surface to the targeted zone. Fresh water aquifer zones that may be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove, and dissolution surface in the Green River formation. These aquifer zones along with upper portion of the Wasatch are known for difficulties in drilling and cementing. All minerals from the surface to 200 feet below the Orange Marker Bed of the Green River Formation are fee minerals. Minerals located below this zone are federal minerals. All proposed wells and pads are in EnCana's Big Jimmy Federal Oil and Gas Exploratory Unit COC-74105X. The unit agreement contains an oil shale lease stipulation for the protection of oil shale resources. According to the Colorado Oil and Gas Conservation Commission (COGCC) on line database there are 23 producing, 134 permitted not drilled and 1 injection wells.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: There is potential for commingling of the aquifer zones, however, the cementing procedure of the Proposed Action isolates the formations and will prevent the migration of gas, water, and oil between formations including the oil shale zones. Conventional recovery of the coals is not considered feasible at the depths encountered in the wells. Development of these wells will deplete the hydrocarbon resources in the targeted

formation. Future development potential of the oil shale resources near the existing wells may be limited; however, EnCana is the surface owner and presumably the mineral owner of the oil shale resources.

Cumulative Effects: As mentioned above the Colorado Oil and Gas Conservation Commission (COGCC) database identifies 137 drilled or permitted wells within a one mile radius of the well pads. This in addition to the 64 proposed wells, and an assumed 32 wells for the F22 would bring the total number of wells within one mile radius to 233. Bottom hole spacing of 20 acres could require an additional 80 wells for full development of the natural gas resource within this area. Full development of the natural gas resource could preclude the future recovery of oil shale resources until the existing natural gas resources are exhausted.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: The natural gas resources in the targeted zones will not be developed at this time.

Cumulative Effects: There would be no contribution to conflicts between the recovery of oil shale and natural gas resources.

Mitigation: None.

SOIL RESOURCES

Affected Environment: The classifications of soils within 30 meters of the proposed pad and centerlines of the access roads and pipelines, within the WRFO and that could be impacted by the Proposed Action, are shown in Table 7. All surface disturbances would occur on private surface, but wells would access Federal minerals.

Table 7. Soil Classifications within 30 Meters of the Pad and the Centerline of Roads and Pipelines (USDA-SCS, 1985).

Soil Classification	Range Site	Erosion Hazard	Rutting Hazard	Potentially Impacted (Acres)
Parachute-Rhone loams, 5 to 30 percent slopes	Mountain Loam	Severe	Severe	36
Silas loam, 3 to 12 percent slopes	Mountain Swale	Moderate	Severe	16
Irigul channery loam, 9 to 50 percent slopes	Loamy Slopes	Severe	Slight	10
Parachute loam, 25 to 65 percent slopes	Brushy Loam	Severe	Severe	5
Rhone loam, 30 to 70 percent slopes	Brushy Loam	Severe	Severe	2

Of the 69 acres analyzed, 17 acres are on fragile soils, mostly adjacent to the proposed disturbance in the valley bottoms and ridgetops and due to steep slopes. The SG F22 496 pads is in Silas loam soils and have a moderate erosion rating with the potential for severe soil rutting.

The Proposed Action does not specify that gravel will be used to surface the access road to the SG F22 496 location. Gravel is included in the surface use plan for the SG E34 496 but not for SG L27 496.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The SG E34 496 and SG L27 496 well pads, access road and buried pipeline to service well pads would disturb the top of steep ridges. Alternatively, the SG F22 496 would disturb soils in a drainage bottom. With proper BMPs for stormwater, construction, reclamation and mitigation, impacts to soils outside the 30 meter buffer around surface disturbance is not expected. Final reclamation on the pipeline would likely be achieved within 3 to 5 years after installation. Since the soil rutting hazard is severe for the majority of the soils, since these sites will be occupied over the winter and experience high use due to 32 wells per pad, surfacing access roads would improve the wear of the road surfaces and reduce the risk of increased erosion adjacent to roads and therefore reduce impacts to soils and steep slopes adjacent to the access roads.

Direct impacts from the construction of the well pads, access roads and pipeline installation would include soil compaction, removal of vegetation, exposure of subsoil, mixing of soil horizons, loss of topsoil productivity, and an increase in the susceptibility of soils to wind and water erosion. Compaction due to construction activities would reduce aeration, permeability and water-holding capacities of soils in some locations. Removal of vegetation exposes soils to erosion from rainfall, wind and surface runoff. Exposure of subsoil and mixing of soil horizons can change the physical characteristics of subsoil and may reduce the productivity of these soils before reclamation is complete. Loss of topsoil productivity can occur during storage due nutrient loss through percolation of precipitation through the soils, physical loss and mixing of less productive soil layers during moving and a loss of structure. An increase in surface runoff and sedimentation could be expected from impacted soils and these soils are likely to be less resilient to erosion from surface runoff after disturbance.

These direct impacts from the Proposed Action could result in increased indirect impacts to soils off the construction sites such as increased runoff and erosion. Implementation of BMPs for stormwater and reclamation will reduce impacts from this project and should limit impacts to construction sites. However, there is the potential for intense storm events or BMP failures resulting in erosion off the site. This is most likely on the SG F22 496 well pad since it is in a drainage bottom.

Indirect impacts from this project could result in contamination of surface and subsurface soils due to unintentional leaks or spills from construction equipment, storage tanks production equipment and if these spills occurred they would affect the productivity of soils.

Cumulative Effects: Well pads in the general area 5th-Level Hydrologic Unit Code named the Headwaters of Piceance Creek are within the Mesaverde Play Area and are likely to have 2-3 multiple well pads per section. Exploratory wells would include surface disturbance for well pads, pipelines, roads and support facilities. Extensive development of oil is foreseeable. Livestock grazing and dispersed recreation occurs on public and private lands in the area and these activities may reduce canopy cover and lead to localized erosion in some reclamation

areas. No other impacts other than oil and gas development, livestock and reclamation are expected in the headwaters of Piceance Creek. In general, soil disturbance in the Proposed Action and other activities are likely to reduce soil productivity in the localized areas of disturbance, but are unlikely to impact overall soil productivity for the long term.

Environmental Consequences of the No Action Alternative:
Direct and Indirect Effects: No impacts to soils would occur.
Cumulative Effects: Impacts would be similar to those described for the action alternative.

Mitigation: None.

Finding on the Public Land Health Standard #1 for Upland Soils: With mitigation, this action is unlikely to reduce the productivity of soils on public lands.

SURFACE & GROUND WATER QUALITY

Affected Environment: Surface Water: This project is within Stewart Gulch a tributary to Piceance Creek and the White River. Table 8 describes water segments that may be impacted by this project.

Table 8. Water Quality Classification Table (WQCC 2013)

Segment	Segment Name	Use Protected	Protected Beneficial Uses			
			Aquatic Life	Recreation	Agriculture	Water Supply
17	Stewart Gulch from the source to Piceance Creek	No	Cold 2	Not Primary Contact Recreation	Yes	No
14a	The mainstem of Piceance Creek from the source to Hunter Creek	No	Cold 1	Existing Primary Contact Recreation	Yes	No

Segment 17, Stewart Creek is protected for cold water aquatic life (Cold 2). The cold designation means the classification standards would be protective of aquatic life normally found in waters where the summer weekly average temperatures does not frequently exceed 20 °C. The Cold 2 designation means that it has been determined that these waters are not capable of sustaining a wide variety of cold water biota.

Segment 14a, Piceance Creek, is protected for cold water aquatic life (Cold 1). The Cold 1 designation means that it has been determined that these waters are capable of sustaining a wide variety of cold water biota. Segment 17 and 14a are not listed on the 303d list of Colorado's impaired waters (WQCC 2012). These segments are also protected for recreation and agricultural.

Groundwater: Precipitation in this area generally moves from areas of recharge to surface waters via alluvial aquifers and on the surface during spring melt and rain storms. A portion of annual precipitation infiltrates to deeper bedrock aquifers that contribute to contact springs. Springs and ground water inputs generally occur in both bedrock and alluvial aquifers along valley bottoms.

Contact springs are common in the area and are often the result of upper bedrock aquifers consisting of fractured, lean oil shale zones and siltstones of the Green River Formation above and below the Mahogany Zone. Perched groundwater zones occur locally when saturated zones contact differences in permeability and solubility of individual formations. These contact zones can occur in the ridges between surface water drainages and may be manifested as springs and seeps above the valley floor in outcrop areas.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Surface Waters: Clearing, grading, and soil stockpiling activities associated with the Proposed Action would alter overland flow and natural infiltration patterns. Potential direct impacts include surface soil compaction caused by construction equipment and vehicles, removal of vegetation and disturbance of surface soils, which would increase rain-splash erosion and reduce the soil's ability to absorb water and increase the volume and rate of surface runoff, which in turn would increase surface erosion. The gulleys on the southeastern edge of the pad and along the access roads are the most likely areas for this surface erosion to occur. Stormwater measures and best management practices include periodic monitoring of any erosion problems would be essential to avoid erosion and increased sedimentation to surface waters.

The soil analysis indicated the potential for severe rutting on roads due to the length of occupation of this site during drilling the site will need to be accessed in the winter and other times with high soil moisture, therefor without road surfacing impacts to the drainage features are likely. To reduce erosion adjacent to roads and potential impacts to the water quality of downstream public lands access roads will be surfaced with six inches of road base and/or gravel. Maintenance will include restoring the travel surface shape, road surfacing to maintaining an effective all-weather surface during drilling and production of the wells. This should reduce the risk of increased sedimentation to surface waters.

EnCana estimates that 8,000 bbl of fresh water would be used per well during construction and drilling activities. For dust suppression, EnCana anticipates using up to 5,000 bbl of fresh water per location during (May to October) and approximately 1,700 bbl of fresh water per mile of pipeline. Approximately 1,600 bbl of fresh water would be used for hydrostatic testing of the pipelines. The estimates for 96 wells would be 805,000 barrels of freshwater use or 1.08 acre-feet per well. White River Field office uses 2.62 acre-feet of fresh water per well per well, and a programmatic agreement was established with the US Fish and Wildlife for depletions based on this amount (See the Wildlife Section). This programmatic agreement will be used for this project and the estimated 1.08 acre-feet is well below the depletion amount and should be in keeping with existing EnCana water rights and therefore there are no impacts expected.

Surface runoff associated with storm events may increase sediment loads in surface waters down gradient of disturbed areas. Sediment can be deposited and stored in minor drainages where it

would be moved into the White River during heavy convective storms. Surface erosion for this project is most likely during the construction and early production phases of the project and would be mitigated using BMPs for stormwater.

Groundwaters: As described in the Affected Environment, aquifers in the Project Area include the Tertiary Uinta-Animas aquifer, and the Cretaceous Mesaverde aquifer. The latter aquifer represents the principal target of the Proposed Action and would be located at depths of 7,000 feet or greater, according to existing well data. The Uinta-Animas aquifer consists of portions of the Green River and Uinta formations and is generally divided into upper and lower units by the Mahogany zone of the Parachute Creek Member of the Green River Formation, which retards water movement vertically.

The proposed casing and cementing program for each of the wells has been designed to protect and/or isolate all usable water zones. The surface casing would be set at 2,000 feet and cemented back to the surface.

There are two zones of potential water (A-groove and the B-groove) in the Parachute Member of the Green River formation are anticipated to be drilled through; the deepest of these zones is estimated at more than 1,200 feet below the surface according to the drilling plans. These potential freshwater zones will be protected by surface casing, cementing behind these casing will be carried to the surface. The grade of cement used will vary but drilling practices will be employed and checked by the BLM to eliminate gaps between cement. Cement protects the well casings from leaking due to deterioration over the life of the well and allows casings to withstand pressure increases during completion and hydrologic fracturing activities without bursting.

Loss of drilling fluids may occur at any time in the drilling process due to changes in porosity or other properties of the rock being drilled. When this occurs, drilling fluids may be introduced into the surrounding formations which could include freshwater aquifers. If drilling fluids are lost groundwater aquifers, aquifers may be contaminated by drilling additives. Using bentonite, freshwater and other additives that cannot contaminate groundwater mitigates the loss of drilling fluids that can be common during drilling since the introduction of these substances would not impact the quality of these groundwater features.

Impacts to groundwater resources could occur due to failure of well integrity, failed cement, surface spills, and/or the loss of drilling, completion and hydraulic fracturing fluids into groundwater. Types of chemical additives used in drilling activities may include acids, hydrocarbons, thickening agents, lubricants, and other additives that are operator and location specific. Concentrations of these additives also vary considerably and are not always known since different mixtures can be used for different purposes in gas development and even in the same well bore. According to COGCC requirements, all chemicals (greater than 500 pounds) used during drilling, completion, and work-over operations, including hydraulic fracturing treatments will be disclosed in a chemical disclosure form by well site. Also, chemicals and additives used for hydraulic fracturing will be disclosed on the public web site set up for this purpose.

Hydraulic fracturing is designed to change the producing formations' physical properties by increasing the flow of water and gas around the well bore. Hydraulic fracturing may also introduce chemical additives into the producing formations. Chemical additives used in completion activities will mostly be pumped back to surface tanks before production. Left over fluids will be injected in a Class II injection.

Known groundwater bearing zones in the project area would be protected by drilling plan as described. Groundwater resources (including the contact springs, perched aquifers, and groundwater zones described in the Affected Environment) are all in elevations above the surface casing. With proper drilling and completion practices contamination of groundwater resources is unlikely.

Cumulative Effects: Well pads in the general area 5th-Level Hydrologic Unit Code named the Headwaters of Piceance Creek are within the Mesaverde Play Area and are likely to have 2-3 multiple well pads per section. Exploratory wells would include surface disturbance for well pads, pipelines, roads and support facilities. Extensive development of oil is foreseeable. Livestock grazing and dispersed recreation occurs on public and private lands in the area and these activities may reduce canopy cover and lead to localized erosion in some reclamation areas. No other impacts other than oil and gas development, livestock and reclamation are expected in the headwaters of Piceance Creek. In general, soil disturbance in the Proposed Action and other activities are likely to reduce soil productivity and may lead to increased erosion and increased salt or sedimentation loading.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Neither ground nor surface water quality would be impacted by the no action alternative.

Cumulative Effects: Impacts would be similar to those described for the action alternative, but would not include the impacts from the Proposed Action.

Mitigation: The following should be added as COAs:

1. To protect surface waters below the project area, keep road inlet and outlet ditches, sediment retention basins, and culverts free of obstructions, particularly before and during spring run-off and summer convective storms. Provide adequate drainage spacing to avoid accumulation of water in ditches or on road surfaces.
2. Install culverts and low-water crossings with adequate armoring of inlet and outlet. Patrol areas susceptible to road or watershed damage during periods of high runoff.
3. Locate drainage dips and drainage ditches in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or dips.
4. To reduce erosion adjacent to roads and protect water quality in downstream public lands by maintaining the drainage features of the access roads, access roads will be surfaced with six inches of road base and/or gravel. Maintenance will include restoring the travel

surface shape, road surfacing to maintaining an effective all-weather surface during drilling and production of the wells.

5. When drilling to set the conductor and surface casing, drilling fluid will be composed only of fresh water, bentonite, and/or a benign lost circulation material that does not pose a risk of harm to human health or the environment (e.g., cedar bark, shredded cane stalks, mineral fiber and hair, mica flakes, ground and sized limestone or marble, wood, nut hulls, corncobs, or cotton hulls).

Finding on the Public Land Health Standard #5 for Water Quality: It is unlikely that construction of these well pads, access roads, installation of pipelines or drilling would result in an exceedence of state water quality standards.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The valley subtending the Proposed Action is ephemeral, intermittently incised, and generally degraded. The BLM is not aware of any lotic systems that support riparian vegetation within at least 9 channel miles of the proposed action (i.e., East Fork of Stewart Creek). At this point, a perennial channel extends another 2.3 miles to Piceance Creek. The nearest BLM-administered riparian system downstream of the Proposed Action is another 20 valley miles downstream in lower Piceance Creek. The lands associated with the Proposed Action are owned and actively managed by the applicant.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action is confined to an ephemeral draw and adjoining ridgeline on a major watershed divide well separated from lotic systems that support riparian vegetation. The application and monitoring of best management practices during construction and development/production operations would be consistent with the State Stormwater Management regulations. These measures would prevent any substantive sediment transport to surrounding drainages such that the Proposed Action would pose no reasonable risk of adversely influencing downstream riparian or channel systems.

Cumulative Effects: None

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no action authorized that could influence riparian or wetland vegetation.

Cumulative Effects: There would be no action authorized that could influence riparian or wetland vegetation.

Mitigation: None.

Finding on the Public Land Health Standard for riparian systems: Best management practices applied to the Proposed Action would prevent any substantive sediment transport to

surrounding drainages such that the Proposed Action would pose no reasonable risk of adversely influencing downstream riparian or channel systems. The Proposed Action would have no conceivable influence on the riparian health standard.

VEGETATION

Affected Environment: The proposed F22 496 pad and its associated pipeline lies in a mountain swale ecological site. This valley bottom site is dominated by basin big sagebrush (*Artemisia tridentata tridentata*), and to a lesser extent by rabbitbrush (*Ericameria nauseosa*) with a mixed grass/forb understory. Grass species noted include basin wildrye (*Leymus cinereus*), wheatgrasses including western (*Pascopyrum smithii*) and slender (*elymus trachycaulus*), and Columbia needlegrass (*Achnatherum nelsonii*). Less desirable species present include Kentucky bluegrass (*Poa pratensis*), dandelion (*Taraxacum officinale*), yarrow (*Achillea spp*), mustards (*Brassica spp*), and other annual weeds. The other two sites (L-27 and E34) and their associated pipelines occur on a mountain loam ecological site on a north south trending ridge top. Vegetation on these upland sites is dominated by mountain big sagebrush (*Artemesia tridentata vaseyana*), some serviceberry (*Amelanchier alnifolia*) and Gambel oak (*Quercus gambelii*), a scattering of bitterbrush (*Purshia tridentata*) and a diverse understory of grasses including Needlegrass (*Stipa spp*), elk sedge (*Carex garberi*), Intermediate wheatgrass (*Thinopyrum intermedium*), slender wheatgrass (*Elymus trachycaulus*), and mountain (*Bromus marginatus*) and smooth (*Bromus inermis*) brome. Outside of areas already altered by roads, pads, and pipelines, the upland sites have an adequate composition of native plants and are rated mostly as late seral. The F22 pad site has an abundance of weedy annuals and is rated as mid-seral.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Construction of pad F22, its pipeline and upgrading the existing road would occur in a narrow valley bottom through mostly undisturbed sagebrush vegetation resulting in the short term loss of approximately 13.2 acres of vegetation. The southern portion of the pipeline would be through a recently disturbed area. The expansion of the L27 pad and the E34 pad and their associated pipelines would bisect a narrow ridge top dominated by mountain shrub vegetation and would result in the removal of approximately 12.3 acres of vegetation for the pads. Approximately 6.4 acres of vegetation would be removed for construction of the pipeline associated with E34.

Direct impacts of vegetation removal include short-term loss of vegetation and the modification of plant community structure, species composition, and a short-term reduction of basal and aerial vegetative cover. Removal of vegetation also results in increased soil exposure, short-term loss of wildlife habitat, reduced plant diversity, and loss of livestock forage. Indirect impacts include the increased potential for non-native/noxious plant establishment and introduction, accelerated wind and water erosion, changes in water runoff due to road/facility construction, soil impacts that affect plant growth (soil erosion or siltation), shifts in species composition and/or changes in vegetative density away from desirable conditions, and changes in visual aesthetics. Depending on the site, reestablishment of native shrubs may not begin for more than 10 years.

Environmental conditions could prevent initial reseeding efforts from being successful, resulting in an extended recovery period for native plant communities. Incorrect placement of excavated soil back in pipeline trenches could result in a substrate that is not capable of supporting a healthy native plant community. Construction in more than one phase or construction season could result in more soil loss, greater potential for noxious weed establishment, and longer recovery times for the disturbed sites

Cumulative Effects: The proposed project, when added to other projects and developments, in and near the project area, as well as within the Piceance Basin as a whole, would result in an increase in short-term removal of existing vegetation on private and public land. Long-term changes in plant community composition and structure would also occur on those project sites and on a broader scale from activities such as livestock grazing. Of the total potential vegetation removal near the project area and the Piceance Basin, the proposed project would not result in a noteworthy increase in vegetation disturbance or long-term changes in plant community.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Denial of the project would result no impact to vegetation along the proposed corridors, access roads, or above grade facilities.

Cumulative Effects: Denial of the proposed project would have little impact on the cumulative effect of oil and gas development impacts to the vegetative communities in the general Barnes Ridge area or in the Piceance Basin as a whole.

Mitigation: In addition to Encana's committed mitigation the following mitigation is recommended.

1. Stockpiled topsoil and spoil piles should be separated and clearly labeled to prevent mixing during reclamation efforts.

2. Woody material should not be included within the topsoil piles, but should be piled separately in a manner that avoids windrowing and large piles of material.

3. Final reclamation of pipelines including seeding should commence immediately after completion of pipeline construction. However, spreading of topsoil and application of seed should be deferred until the next appropriate seeding dates (September 1 through March 15). Drill seeding is the preferred method of application.

4. Where it is apparent that livestock use will hamper reclamation efforts of pads and pipeline areas in terms of vegetation establishment it is recommended to build fences around reclaimed areas. Appropriate pass-through areas should be provided in pipeline fences to allow livestock and wildlife to traverse through the general area. Fences should be maintained by Encana and upon achieving reclamation success fences should be removed.

5. The reclamation success criteria should result in a minimum cover and composition of 80 percent of the Desired Plant Community (as defined by the ecological site, in an early

seral state) or in relation to the seed mix applied within three growing seasons after the application of seed. This community should be capable of persisting on the site without intervention and allow for successional processes consistent with achieving the seral stage on the site prior to surface disturbance. Reclamation achievement should be evaluated using the Public Land Health Standards that include Indicators of Rangeland Health.

Finding on the Public Land Health Standard #3 for Plant and Animal Communities: With implementation of mitigation measures and successful re-vegetation, the Proposed Action would have no effect on the status of Land Health Standard 3 in the project area or at a landscape scale.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Onsites for the SG E34 496, SG L27 496, and F22 496 were conducted on November 8, 2012. Noxious weed species known from growing season inspections of the area to occur in the area of F22 496 include houndstongue *(Cynoglossum officianale)*, bull thistle *(Cirsium vulgare)*, western sticktight *(Lappula occidentalis)*, and cheatgrass *(Bromus tectorum)*. No specific infestations of noxious or invasive weed species are known to occur at the E34 496 and L27 496 sites however principal noxious weeds of concern in the general area are those listed above, spotted knapweed *(Centaurea maculosa)*, yellow toadflax *(Linaria vulgaris)*, black henbane *(Hyoscyamus niger)*, and musk thistle (*Carduus nutans*), all of which are being treated throughout the general area by BLM, local ranchers, contractors and the Piceance Weed and Pest District. A scattered presence of cheatgrass occurs along roadsides and disturbed sites throughout the area.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The disturbance associated with the Proposed Action could create or exacerbate a noxious weed problem by importing weed seed on vehicles and equipment or by creating suitable conditions in the form of non-vegetated disturbed areas. Construction activities could spread noxious weed species to other areas by carrying seeds or plant parts (rhizomes) on construction equipment.

Establishment of noxious or invasive weeds on the project's disturbed soils could result in some areas being dominated by these aggressive species. It could also result in additional seed sources that would help to expand the occurrence of these species into adjacent plant communities.

Cumulative Effects: The proposed project could contribute to the noxious and invasive plant species present in the surrounding areas. However, existing roads through the area are common sources of invasive and noxious weeds, so elimination of these species from the general area may be unlikely.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: Noxious and invasive plants would continue to be present within the vicinity of the project area and, depending on the aggressiveness of weed treatment activities, may continue to spread.

Cumulative Effects: Cumulative effects would be similar to those from the Proposed Action.

Mitigation:

1. The operator should eliminate any noxious plants before seed production occurs. The operator should clean all off-road equipment to remove seed and soil prior to commencing operations within the project area.
2. In order to minimize the potential for invasion of noxious and invasive species, the operator should attain sufficient cover of native reclamation species (similar to that of nearby undisturbed native plant communities in a healthy early-seral state).

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no listed or proposed threatened or endangered animal species that are known to inhabit or derive important use from the project area. The endangered Colorado pikeminnow occupies the lower White River below Taylor Draw dam, about 70 miles downstream of the project area, and is discussed below. Two BLM-sensitive birds inhabit the project vicinity, including the candidate greater sage-grouse (discussed here) and Brewer's sparrow, which is addressed in the Migratory Bird section.

The Proposed Action is situated on the eastern margin of habitats occupied year-round by the Parachute-Piceance-Roan (PPR) greater sage-grouse population. These birds are associated with the Barnes Ridge group, one of two prominent clusters of sage-grouse in the Piceance Basin. Suitable grouse habitat in the immediate project area is confined to narrow (50-250 meter width) mountain big sagebrush ridgelines and upper drainage basins at elevations of 8,000 to 8,300 feet, whose continuity is occasionally interrupted by tall deciduous shrub canopies (e.g., Utah serviceberry, Gambel oak). All habitats associated with the proposed project are classified as Priority Habitat, which represent the most important habitat base supporting any given population of birds. This locale is used year-round by grouse, but most importantly serves as nesting and early brood habitat April through August.

Proposed development activity is closely associated or coincident with ridgeline and valley developments that were installed about 5 and 3 years ago, respectively. The project would involve expanding two existing ridgeline well pads that are situated from 0.7 (L27) to 1.4 miles (E34) from the nearest active lek (Barnes Ridge, adjacent ridgeline to west). The project ridgeline formerly provided about 65 acres of suitable sagebrush-dominated habitat. Past natural gas development consists of 2 pads and intervening access along the ridgecrest that presently occupies about 21 acres of that habitat. The remaining 44 acres of suitable habitat is arranged narrowly along the ridgeline road, but includes a 17-acre broadening that represents the ridgeline's largest remaining habitat parcel. The F22 location is about 0.9 mile from the lek and its access lies within 0.4 mile, but these features are located in the narrow adjoining valley a minimum of 400 feet below the Barnes Ridge crest. These valley bottoms and the steep adjacent

mountain shrub slopes are not suited for sage-grouse use and are believed to be generally disassociated from suitable sage-grouse habitats and use functions.

Based on a limited CDOW telemetry data set from 2007-08, it appears that spring, summer, and fall female grouse activity is predominantly distributed along ridgelines south and west of Barnes Ridge (and the project area), but includes use of a narrow ridgeline adjacent to and east of the project sites. This telemetry data reveals little if any grouse use of the ridge slated for development, though this may be an artifact of its regular pattern of development activity. The collective distribution of telemetry points may indicate that inter-ridge movement for adult grouse more commonly involves flight rather than ground movements (e.g. grouse broods).

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Those portions of the White River occupied by the endangered Colorado pike minnow are over 70 valley miles downstream of the project area, however, water use attributable to fluid mineral development represents flow depletions from the upper Colorado River system and is an influence that has been determined by the U.S. Fish and Wildlife Service (USFWS) to jeopardize the continued existence of the pikeminnow and three additional downstream species of endangered river fishes.

Given that the Proposed Action would result in the depletion of water from within the Colorado River basin, this project falls under BLM Colorado's Programmatic Biological Assessment (PBA) for water depleting activities associated with BLM's fluid minerals program in the Colorado River basin in Colorado (BLM 2008). Based on the assumptions used in BLM's programmatic analysis, annual water consumption for this project would amount to about 73 acre-feet (i.e., 1 rig at 28 wells developed per year @ 2.62 acre-foot per well). Based on the proponent's projected water use figures, annual water depletion would much reduced from this figure (about 30 acre-feet per year), which likely reflects their robust water management and recycling system.

In response to BLM's PBA, the U. S. Fish and Wildlife Service (FWS) issued a Programmatic Biological Opinion (PBO)(ES/GJ-6-CO-08-F-0006) on December 19, 2008, which concurred with BLM's determination that water depletions are "Likely to Adversely Affect" the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. Likewise, the project is also likely to adversely affect designated critical habitats for these endangered fish along the Green, Yampa, White, Colorado, and Gunnison rivers. However, the FWS also determined that BLM water depletions from the Colorado River Basin are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, or razorback sucker, and that BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated in January 1988. The Recovery Program serves as the reasonable and prudent alternative to avoid jeopardy and aid in recovery efforts for these endangered fishes resulting from water depletions from the Colorado River Basin. The PBO addresses water depletions associated with fluid minerals development on BLM lands, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. The PBO includes reasonable and prudent alternatives developed by the FWS which allow BLM to authorize oil

and gas wells that result in water depletion while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. As a reasonable and prudent alternative in the PBO, FWS authorized BLM to solicit a one-time monetary contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by fluid minerals activities on BLM lands.

This project has been entered into the White River Field Office fluid minerals water depletion log which will be submitted to the Colorado State Office at the end of the Fiscal Year.

In its analysis of pending fluid mineral authorizations, BLM policy established by BLM IM 2012-043 (Greater Sage-Grouse Interim Management Policies and Procedures) directs WRFO to work in cooperation with operators to minimize habitat loss and direct and indirect effects to sage-grouse and their habitat. These protocols call for coordination with CPW in determining whether the proposed authorization would likely have more than minor adverse effects for grouse and its habitat.

The Proposed Action would clear and occupy up to 33 acres of sagebrush and mixed shrub habitat that is suitable, but largely unoccupied by sage-grouse associated with the Barnes Ridge lek complex. In general, these shrublands have well developed herbaceous understories that are well suited for nesting and brood-rearing use. The expanded E34 and L27 pads and their attendant pipeline corridors would occupy about 7 acres of big sagebrush and 12 acres of mountain shrub. Surface occupation would involve about 16% of the remaining shrubland suitable for grouse on this ridge (40% of former habitat cumulatively occupied by development facilities on Short Ridge project area). Substantial redesign of pad locations and drilling patterns by the operator avoided development of an earlier pad proposal (i.e., M27) which would have involved about 7 additional acres of sagebrush centered on the ridgeline's largest parcel of suitable sagebrush habitat. Operator initiative, in this case, allowed retention of a broad 17-acre park that would have otherwise been reduced to 2 widely separated 4-acre parcels. It is expected that about half of the disturbed acreage would regain suitable sagebrush character within 15 years.

The F22 location and its linear features would occupy about 13 acres of bottomland sagebrush, but under these circumstances, these shrublands do not represent suitable sage-grouse habitat. Too, there is reasonable likelihood that as a source of disturbance (i.e., equipment noise and human activity), the F22 well pad and pipeline sites are isolated by the 400 feet of vertical separation from occupied ridgeline habitats such that adverse reactions (e.g., nest disruption, avoidance) by sage-grouse would be effectively precluded.

Existing improved access serves the valley and ridgeline locations. In both cases, well development would add little to the existing road network, but would add to and prolong higher levels of vehicle traffic on road segments that traverse sage-grouse habitat. Due to lengthy development timeframes (>1 year per pad), construction and well development traffic are likely to coincide with the 2013 and 2014 nesting and brood-rearing seasons.

The applicant has independently identified primary access to these locations from the east via 4.2 miles of improved Divide Road (established private access from Parachute Creek). This route bisects about 235 acres of occupied or suitable sage-grouse habitat, but relative to alternative access (Barnes Ridge and Sprague Gulch) these narrow ridgeline positions on the eastern margin of the PPR population area are sparsely populated and thought to serve a small proportion of the Barnes Ridge subpopulation. This alternative access route involves the smallest intersect of occupied sage-grouse habitat realistically available (including Sprague Gulch). The applicant agreed to accept a BLM Condition of Approval that will establish the applicant's intent to avoid the use of Barne's Ridge for development-related access.

Although impacts to grouse cannot be entirely avoided, this project package was designed in a deliberate manner to reduce development-related effects on sage-grouse to the lowest practical level such that it contributes as a minor increment to cumulative consequences on the PPR's Barnes Ridge subcomplex. The operator's development designs for multi-well pads and centralized production facilities were undertaken specifically as a means to reduce habitat loss and the scope of behavioral impacts imposed on sage-grouse. This development plant was formulated in part from a series of prior discussions and on-sites and its implementation was endorsed by CPW and WRFO staff.

Under the circumstances, proposed development patterns and timeframes achieve a number of desirable sage-grouse oriented objectives and meet the intent of BLM IM 2012-043, through the following actions:

- **minimizing short and long term modification and occupation of suitable sage-grouse habitat**

    1. the applicant volunteered to a wholesale redesign of original drilling patterns that used existing pads (E34/L27) or pads in non-habitat (F22) that allowed for retention of the largest remaining parcel of sagebrush habitat in the immediate project area and eliminated the need to develop additional pad locations on two adjacent, occupied ridgelines (including Barnes Ridge itself);

    2. the applicant is using modern fracing and drilling technologies that reduces surface density of development features;

    3. the applicant voluntarily uses enhanced interim reclamation procedures and seed mixes that offer improved herbaceous forage and cover redevelopment opportunities for grouse.

- **minimizing direct and indirect effects to sage-grouse and their habitat**

    1. the applicant chose access routes that minimize traverse lengths through higher quality or more consistently occupied habitats

    2. the applicant's development redesign confined the behavioral influences of human activity to areas of pre-existing disturbance and dramatically reduced the

need for initiating surface disturbance in largely undisturbed suitable and occupied habitat

- **the applicant employs BMPs developed in coordination with CPW that:**

1. reduces disruption of sage-grouse reproductive activities where possible (applicant-committed activity restrictions);

2. reduces vehicle speeds through occupied habitats;

3. reduces the frequency of vehicle traffic during well development through vehicle-pooling and through the decades-long production phase through remote well monitoring.

In addition, the applicant has agreed to accept the following conditions as a means of furthering the understanding and evaluating the practical application of measures designed to reduce the disruptive influences of light and noise on occupied sage-grouse ranges:

1. The applicant will make efforts to muffle and redirect noise emanating from on-site compression facilities (if used) in a manner that would substantially reduce noise-reception from occupied sage-grouse habitats on adjacent ridgelines (for example, using heavy side-slope vegetation and distance to attenuate noise and considering prevailing winds to align residual transmission down-canyon for F22, downwards NNE into canyon for E34/L27).

2. The applicant will use the lowest intensity lights that safety requirements will allow and make efforts to shield fixtures to reduce the intensity of light visible from adjacent ridgeline habitats.

Cumulative Effects: Although impacts to grouse cannot be entirely avoided, this project package was designed in a deliberate manner to reduce development-related effects on sage-grouse to the lowest practical level such that it contributes as a minor increment to cumulative effects on the Barnes Ridge subcomplex.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no further action authorized that would have potential to influence special status species, but continued maintenance/production activities would persist in support of existing wells. Selection of alternate areas for development would be expected to increase both the absolute acreage of suitable sage-grouse habitat subject to loss and disturbance and the likelihood of involving lands that support greater numbers of birds.

Cumulative Effects: Selection of alternate areas for development would be expected to increase both the absolute acreage of suitable sage-grouse habitat subject to loss and disturbance and the likelihood of involving lands that support greater numbers of birds.

Mitigation: Mitigation that has been developed in conjunction with an industry/CPW Wildlife Mitigation Plan has been integrated into the Proposed Action. Several additional site-specific additions were discussed with the operator and subsequently added as Conditions of Approval:

1. Vehicle access associated with construction of and development on the F22, E34, and L27 locations, including access roads and pipelines, will not be allowed on the Barnes Ridge road except in the case of emergency.

2. The applicant will make efforts to muffle and redirect noise emanating from on-site compression facilities (if used) in a manner that would substantially reduce noise-reception from occupied sage-grouse habitats on adjacent ridgelines (for example, using heavy side-slope vegetation and distance to attenuate noise and considering prevailing winds to align residual transmission down-canyon for F22, downwards NNE into canyon for E34/L27).

3. The applicant will use the lowest intensity lights that safety requirements will allow and make efforts to shield fixtures to reduce the intensity of light visible from adjacent ridgeline habitats.

4. BLM recommends that the interim and final reclamation seed mix for this project refrain from the use of deciduous shrubs (i.e., Utah serviceberry, Wood's rose, and snowberry). Optional forb components that best meet the nutritional demands of grouse broods should be considered a priority, including sulphur flower, Utah sweetvetch, and yarrow. Due to general absence or tendency to naturally recolonize disturbed sites in the project locale, the use of lupine and, especially, white sage should be avoided.

5. The project area represents suitable and occupied nest habitat that is subject to White River ROD/RMP-approved timing limitations designed to reduce disruption of nest and early brood activities of sage-grouse. These measures, which cannot be practically applied to year-round drilling practices, can be 'excepted' by the WRFO Manager pending coordination with the CPW. Based on this analysis, this circumstance warrants an exception to BLM White River ROD/RMP TL-06-Timing Limitation for Sage Grouse Nest Habitat.

Finding on the Public Land Health Standard for Threatened & Endangered species: The project area is composed entirely of privately-owned surface. The BLM's land health standards are not intended to be applied to privately-owned lands, but the project area would meet this wildlife-related resource standard.

The immediate project area contributes indirectly to distant downstream critical habitat associated with the endangered Colorado pike-minnow, but as conditioned (i.e., proponent-committed and State and federal reclamation and storm-water protection measures), neither alternative would risk influencing the status of the land health standard.

The greater project area is composed of private surface lands that contribute to the support of the PPR greater sage-grouse population. Although these habitats ostensibly meet the land health standard, CPW monitoring suggests that this population has been in a declining trend for at least several decades; largely in the absence of energy mineral development. Recent sage-grouse research suggests that energy mineral development adversely influences population recruitment and long term population persistence of sage-grouse. Based on this information, and considering prior development in ridgeline sagebrush habitat and the naturally fragmented habitat patterns in the project area, it is likely that proposed developments will contribute to localized reductions in habitat availability and utility for a number of years. However, it is worthy of note, CPW monitoring indicates that the PPR population has remained stable over the past 3 years in spite of limited ongoing fluid mineral development. The development proposal would confine development to habitat that has probably been in a state of compromise for a number of years and would substantially reduce the physical involvement of otherwise suitable sagebrush habitat such that grouse may more quickly be attracted to and colonize the affected ridgeline once development activity subsides and reclamation advances. This proposal represents a concerted effort to seek compatible balance among competing land uses and corresponds well to the maintenance of landscape conditions that would meet BLM's land health standard in the short or long term.

MIGRATORY BIRDS

Affected Environment: The project area is composed primarily of narrow high-elevation mountain big sagebrush ridge tops and valleys with steep intervening slopes composed of mountain shrub (Utah serviceberry, Gambel oak) with small inclusions of aspen. A large array of migratory bird nest in these habitats beginning with their arrival in late April/early May. Initial nesting attempts are normally complete by mid-July, though late renesting efforts may progress into mid-August. These shrublands possess well developed herbaceous understories that are only lightly influenced by livestock grazing through the migratory bird nesting season. Birds most common and widely distributed in the sagebrush communities include the Brewer's sparrow (the only local breeder listed as a USFWS Bird of Conservation Concern) and green-tailed towhee; those associated with the deciduous shrublands include dusky flycatcher, orange-crowned and MacGillivray's warbler, and spotted towhee. Migratory bird breeding densities in the WRFO roughly average about one nest per acre in optimal habitat. Those habitats in close proximity to existing forms of disturbance (e.g., roads) are usually avoided to some degree and recent work in Wyoming suggests up to 50% reductions in breeding bird densities within 100 meters of well-field access roads.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action (well pads and pipelines) would involve the clearing of about 13 total acres of big sagebrush bottomlands and 19 acres of mixed upland shrubland during the 2013 nesting season. The bottomland acreage would be confined to a narrow (average 100 meter width) sagebrush valley that extends about 1300 feet down-valley from an existing well access and pipeline corridor. The ridgeline developments would take place immediately adjacent to existing pad, road, or pipeline features. Based on local circumstances addressed in the Affected Environment, it is estimated that vegetation clearing and

well/pipeline development activities that take place during the 2013/14 nesting seasons would be capable of disrupting up to two dozen nesting attempts, including about 18 sagebrush (fewer than ½ dozen Brewer's sparrow) and 6 mountain shrub associates. Once reclaimed sites become colonized by woody shrubs (within 15 years), there is likely to be no net loss of sagebrush shrublands since reclaimed mountain shrub stands (about 9 acres) generally assume sagebrush character for an extended period. Birds nesting in shrublands adjacent to development operations may also be subject to disruption sufficient to cause egg or nestling mortality (e.g., prolonged absence of adult birds). Because the Proposed Action takes place in close proximity to existing development and operations (particularly E34 and L27), project-wide disturbances are not expected to extend initially to more than 30 acres (perhaps involving disruption of another dozen nesting attempts). This influence would subside substantially once the locations were in production. Long-term reduction in the nest habitat base from facility occupation would involve about 11 shrubland acres.

Cumulative Effects: Except for the immediate project site, this level of effect would have no measurable influence on the overall distribution or abundance of breeding birds affiliated with the sagebrush community in the Piceance Basin and would have no adverse consequence on the viability of, and nearly indiscernible cumulative contributions on, any local migratory bird population.

Open pits that store drilling fluids and produced water pose a risk to migratory birds that contact hazardous pit contents (e.g., for bathing or drinking), However, these developments would use closed-loop systems and there should be no risk of exposing birds to such fluids. Further, the applicant has made a commitment through its agreement with the CPW that all fluid storage would be fenced and netted as appropriate to exclude wildlife.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no action authorized that would have potential to influence migratory birds.

Cumulative Effects: There would be no action authorized that would have potential to influence migratory birds.

Mitigation:

1. In order to reduce the largest potential source of inadvertent direct and indirect mortality of migratory bird eggs and nestlings, vegetation clearing required for the F22 location, pipeline, and access road should be deferred as late into the nesting season as possible, but activity would not be expected to be delayed for this reason beyond 15 July.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The project area does not involve naturally-occurring perennial or intermittent systems capable of supporting well-developed aquatic communities or those potentially occupied by fish or amphibians of management concern. No specific information is

available, but the privately-owned stockpond located in the valley near the F22 location may have sufficiently persistent water to support tiger salamanders and various invertebrate forms that are abundant and widespread across western Colorado.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: None. The land surface associated with the Proposed Action is owned by the applicant and decisions to replace or supplement stockponds as sources of water for livestock and big game are under their control.

Cumulative Effects: There would be no action authorized that could influence aquatic communities.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no action authorized that could influence aquatic communities.

Cumulative Effects: There would be no action authorized that could influence aquatic communities.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The nearest reach supporting aquatic wildlife (also privately owned) is separated from the project area by at least 9 channel miles of ephemeral channel. Neither the proposed or no-action alternative would have any reasonable potential to influence the function or condition of the Piceance Creek channel or its aquatic habitat values.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The project area is encompassed by extensive big game summer ranges that, depending on snow accumulations, are normally used by deer and elk from May through November. The project is confined to an ephemeral draw/ridge series that supports a steeply-sloped mountain shrub-aspen complex on northwest-facing slopes and steep, largely barren slopes on the opposing southeast facing slopes. The bottomlands support a big sagebrush-dominated community. The shrubland-aspen complex is a key source of cover and herbaceous forage for deer and elk during post-partum functions (i.e., raising of young) from June through September, but its utility, and that of adjacent bottomlands, is largely dependent on reliable sources of nearby water. A number of stockponds have been developed in the project area and are capable of temporarily storing water in response to summer precipitation. The land surface associated with the Proposed Action is owned by the applicant and decisions to replace or supplement these facilities as sources of water for livestock and big game are under their control.

Based on past raptor nest surveys, there are a number of raptor nest sites (i.e., red-tailed hawk, Cooper's hawk, and long-eared owl) located within 0.25 mile of the project area, primarily in small aspen groves distributed intermittently along the valley slopes (along valley access). A

Cooper's hawk nest complex, at times used by long-eared owl, is located in a 3-acre aspen stand behind the nose of an intervening ridge and generally out of line-of-sight of the access road (about 265 meters distant). These raptors generally initiate nesting in April. Nestlings are fledged and generally independent of the nest and associated nest habitat by late July or early August.

Small mammal populations are sparsely documented in the WRFO, however, recent BLM and CPW surveys found all shrub-steppe communities in this Field Office dominated by deer mouse and least chipmunk. The remaining species that are likely to occur in this area (e.g., montane vole) are less common, but display broad ecological tolerance and are widely distributed throughout the region. No narrowly distributed or highly specialized species or subspecific populations are known to inhabit this area.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: The Proposed Action would clear or occupy about 13 acres of bottomland vegetation and 19 acres of upland mixed shrub. The pipeline and half the pad acreage would be reclaimed. Although the availability of herbaceous forage on reclaimed acreage would be limited for the first 2 years, in the longer term, forage production would likely be comparable to surrounding bottomlands. Herbaceous forage foregone on the remaining 4 acres in the valley and 6 acres on the ridgeline would represent a minor cumulative contribution to dispersed reductions in seasonal forage available to big game.

Mitigation developed cooperatively by the applicant and the CPW with limited input provided by the WRFO, will be incorporated with project implementation. Additional BLM-generated Conditions of Approval are unnecessary. The project, as proposed, involves a number of habitat features and functions that are subject to RMP-approved timing limitations and/or surface occupancy stipulations, including big game summer ranges, elk production areas, and raptor nests and nesting habitat. The intent of BLM-prescribed timing limitations and avoidance measures are served by the applicant's standing agreement with the CPW and it is appropriate for BLM to grant exceptions in each of these instances. This mutually-coordinated approach is, in this case, considered an appropriate and effective device for accommodating wildlife values on these extensive private landholdings.

Cumulative Effects: Big game tends to avoid intrusive activities and the former utility of lands within 200-400 meters of disturbance sources would be expected to decline until those disturbances subside. It is likely that former levels of big game summer and fall use would be expected to temporarily decline on up to 75 acres of bottomland and adjacent mountain-shrub-aspen slopes in the immediate project vicinity during the 12 month period of pad and well development. Little further avoidance or disuse would be expected to attend reoccupation of existing ridgeline development. Because this project involves little new access development (1,300 feet for the F22) and access is privately controlled, these behavioral effects would not be expected to have lasting influence on big game distribution or subsequent use of adjacent habitats once the wells are in production. Oil and gas development activities located on these big game summer ranges are normally subject to seasonal timing limitations that reduce exposure of big game to disruptive activities that place further energetic demands on lactating females and developing young. However, the CPW and WRFO have agreed to except localized development-

related disturbances in deference to the implementation of higher priority sage-grouse management strategies that are intended to abbreviate acute and chronic development activity on occupied sage-grouse ranges. The application of big game timing limitations would interrupt continuous and consecutive drilling operations and would prolong area-specific disturbance of sage-grouse, particularly during the nesting season.

Development of the proposed locations would not involve raptor nest habitat. Down-valley access to the F22 location passes beneath aspen groves that have supported primarily red-tailed hawk nests, but this well-maintained access has been in place for several years and its continued use during the summer months for construction and well development is not likely to alter nest conditions or status, especially late in the nesting sequence.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no further action authorized that would have potential to influence terrestrial wildlife communities, but continued maintenance/production activity would persist in support of the 2 existing well locations both in the valley and on the ridgeline.

Cumulative Effects: None.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The landscapes associated with the Proposed Action are privately owned, but would meet the land health standards for terrestrial wildlife communities. Pipeline and pad clearing associated with the Proposed Action would modify a modest amount of vegetation in the long term (i.e., about 33 acres of mixed shrub), but the action would not detract appreciably from current habitat character or function. Subsequent reclamation of these disturbed areas with a native seed mixture would be consistent with continued meeting of the federal land health standards for terrestrial game and nongame wildlife populations. The Proposed Action is expected to incrementally reduce local habitat capacity over the life of the project, but as conditioned by reclamation-related provisions, implementation of the Proposed Action would not interfere with continued landscape level maintenance of the land health standards in the long term. The No-Action alternative would have no influence on the continued meeting of the land health standard for animals.

CULTURAL RESOURCES

Affected Environment: No cultural resources are located within the project area; therefore the Proposed Action will have no effect to historic properties.

Environmental Consequences of the Proposed Action: Because there are no cultural resources within the project area, there will be no environmental consequences that would result from implementation of the Proposed Action.

Direct and Indirect Effects: Because there are no cultural resources within the project area, there will be no direct or indirect effects that would result from implementation of the Proposed Action.

Cumulative Effects: Because there are no cultural resources within the project area, there will be no cumulative effects that would result from implementation of the Proposed Action.

Mitigation: Although no historic properties are known to exist within the project area there is potential for new discoveries of cultural resources. Therefore, the following stipulations apply:

1. The permittee is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.
2. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery will cease, and the BLM WRFO Archaeologist will be notified immediately. Work may not resume at that location until approved by the Authorizing Official (AO). The applicant will make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, BLM will evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The applicant, under guidance of the BLM, will implement the mitigation in a timely manner. The process will be fully documented in reports, site forms, maps, drawings, and photographs. The BLM will forward documentation to the SHPO for review and concurrence.
3. Pursuant to 43 CFR 10.4(g), the permittee must notify the AO, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the permittee must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

PALEONTOLOGICAL RESOURCES

Affected Environment: The three proposed well pad locations are located in an area generally mapped as the Uintah Formation (Tweto 1979) which the BLM, WRFO has classified as a Potential Fossil Yield Classification (PFYC) 5 formation meaning it is known to produce scientifically noteworthy fossil resources (c. f. Armstrong and Wolny 1989).

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: If it becomes necessary to excavate into the underlying sedimentary rock to level any of the well pads, construct or realign access road or bury well tie

pipelines there is a potential to impact fossil resources. Increased human presence and activity in the area could result in the loss of fossil resources due to collection. The private land owners have the right to collect the fossils. However, collection by others could constitute theft of private property unless previously approved by the land owners.

Cumulative Effects: Any loss of fossil resources would likely represent an irreversible and irretrievable loss of the fossil and any scientific data that might be associated with the fossils. The level and degree of loss would depend on whether or not mitigation to try and recover scientific data is implemented. If the recommended mitigation measures are not implemented the loss of data would be more severe than if mitigation measures are implemented.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no new construction related impacts to fossil resources under the No Action Alternative. The normally occurring slow erosion of the exposed formation would reveal some fossils over time. Small fossils would likely be washed away and lost as the formation and resultant soils are washed down slope or downstream. Larger fossils could be slowly exposed and exposed surfaces would also slowly weather away and be lost if not recovered.

Cumulative Effects: There would be a very slow, naturally occurring irreversible and irretrievable loss of data from the regional paleontological database under the No Action Alternative. The loss is likely to be slow enough that it would not necessarily be considered severe.

Mitigation: Since the proposed well locations are on fee surface the BLM can, in the interest of science, recommend, but not require, the mitigation below. Any fossils recovered would remain the property of the landowner unless donated to a museum or university.

1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.
2. If any paleontological resources are discovered as a result of operations under this authorization, the operator or any of his agents must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

3. Any excavations into the underlying native sedimentary stone must be monitored by a permitted paleontologist. The monitoring paleontologist must be present before the start of excavations that may impact bedrock.

VISUAL RESOURCES

Affected Environment: Visual resources are the visible physical features of a landscape that convey scenic value. The BLM maintains four Visual Resource Management (VRM) classes to describe the level of acceptable change allowable at a given location. Scenic values in the BLM White River Resource Area have been classified according to the Visual Resource Management (VRM) system into four Visual Resource Management Classes (I-IV), and VRM objectives were established in the 1997 White River ROD/RMP. VRM Class I is the most restrictive with VRM Class IV being the least restrictive.

All activities and actions described in the Proposed Action occur on private surface lands with Federal minerals administered by the BLM (Bureau of Land Management) White River Field Office (WRFO). Because the Proposed Action is located on private surface lands, it is only subject to discretionary mitigation in regards the VRM classification and management process. BLM administered surface lands closest to the Proposed Action have a VRM III management objective. It is recommended that the area encompassing the Proposed Action be treated as though it has a VRM III management objective. The management objective for Class III lands is to partially retain the existing character of the landscape while allowing for a moderate level of change. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements and form found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Implementation of the Proposed Action would cause some visual impacts, primarily through the removal of existing vegetation, the placement of above ground facilities, and the introduction of sharp visual contrasts on the landscape from the linear disturbances. The degree of impact would depend on the type of vegetation affected. In grasslands, the visual impacts would be hardly noticeable once vegetation has returned to its original state. Areas cleared of sagebrush, woodland, and forested vegetation would cause the most visual impact, and these impacts could persist for years, except where the pipelines follow existing, previously disturbed ROWs (as they do for most of their length). In areas where the proposed project parallels an existing pipeline or road corridor, the visual impacts would be an incremental increase in already existing effects.

Contrasts to the basic landscape elements caused by Proposed Action can be evident, but should remain subordinate to the existing landscape. Typically, with proper location, planning, and the painting of above-ground structures a color to blend with the surrounding landscape, the activities and actions described in the Proposed Action are able to meet the VRM III management objectives.

Cumulative Effects: Combined with other ongoing oil and gas development activities in the area, the Proposed Action may begin to contribute to an increasingly impacted visual landscape.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: As the Proposed Action would not occur, no impacts are expected.

Cumulative Effects: None.

Mitigation:

1. BLM recommends the operator paint all aboveground facilities Juniper Green from the BLM Standards Environmental Color Chart CC-001: June 2008.

HAZARDOUS OR SOLID WASTES

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored, or disposed of at sites included in the project area. Most of the exploration and production wastes that would be generated by the Proposed Action would be exempt from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations (e.g., produced water, produced gas). However, the exemption would not mean that these wastes present no hazard to human health and the environment, nor would the exemption relieve the operator from corrective action to address releases of exempt wastes. Non-exempt wastes such as lubricants, fuels, caustics or acids, and other chemicals would be used during exploration and production activities and solid waste (e.g., human waste and garbage) would be generated during the proposed activities.

The operator has not specified the chemicals that would be used for drilling, completion, and hydraulic fracturing. Constituents found in hydraulic fracturing fluids may include salts, acids, petroleum hydrocarbons, and numerous other additives. The concentrations of these constituents are not well documented.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain hazardous constituents, they would be stored, used, and transported in a manner consistent with applicable laws such that generation of hazardous wastes is not anticipated. Solid wastes would be properly disposed of off-site at an approved facility.

Accidental releases associated with equipment failures, equipment maintenance and refueling, and storage of fuel, oil, other fluids, and chemicals could cause soil, surface water, and/or groundwater contamination. Improper management of pit contents may also contribute to environmental contamination. Releases of produced water would present the greatest threat for

widespread impacts. The high salinity of produced water may affect plant growth due to the high osmotic pressure of the soil solution, affecting existing vegetation adjacent to pads and greatly reducing the chance for successful reclamation. High salinity may also impact surface or ground water through run-off or leaching. The sodicity (i.e., excess sodium) of produced water causes deterioration of the soil structure, thereby increasing the potential for soil erosion and reducing the chances of reclamation success. With implementation of the mitigation measures and adherence to the COAs, impacts would likely be temporary.

Since not all chemicals that would be used on the site have been disclosed, specifically chemicals or other additives used for drilling, completion, and hydraulic fracturing operations, impacts to groundwater may occur. These chemicals and additives can also be present in the reserve pit after it is closed, as well as in drill cuttings within the cuttings pit. With proper well completion, implementation of the mitigation measures and adherence to the COAs, impacts to aquifers above the producing zone are unlikely.

Pipeline abandonment procedures listed in the MDP's Proposed Action describe pipeline abandonment procedures during final reclamation with the exception of flushing and properly disposing of any fluids in the lines. With the pipelines EnCana is proposing to install as part of the project and ultimately abandon, there is potential if not abandoned properly for there to either be a spill of produced water or a release of natural gas. With proper pipeline abandonment procedures followed, implementation of the mitigation measures and adherence to the COAs, the potential risk for a release during or following abandonment will be greatly reduced.

Cumulative Effects: Oil and gas exploration and development, and chemicals used for livestock and rangeland management are the principal sources of hazardous and solid wastes in the upper Fletcher Gulch Watershed. Down towards the confluence of Fletcher Gulch and the White River, agriculture and human habitation also contribute. Proper implementation of the surface use plans and adherence to the COAs would greatly reduce any contribution from the Proposed Action to cumulative adverse effects from hazardous and solid wastes on human health and/or the environment. Nonetheless, the Proposed Action is expected to contribute incrementally to release of hazardous and solid waste in the watershed.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: No hazardous or other solid wastes would be generated under the No Action Alternative.

Cumulative Effects: The No Action Alternative would not contribute to cumulative effects from hazardous or solid wastes in the area of analysis.

Mitigation:

1. Comply with all Federal, State and/or local laws, rules and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment. All spills or leakages of oil, gas, produced water, toxic liquids or waste

materials, blowouts, fires, shall be reported by the operator in accordance with the regulations and as prescribed in applicable orders or notices.

2. Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the BLM WRFO.

3. When drilling to set the surface casing, drilling fluid will be composed only of fresh water, bentonite, and/or a benign lost circulation material that does not pose a risk of harm to human health or the environment (e.g., cedar bark, shredded cane stalks, mineral fiber and hair, mica flakes, ground and sized limestone or marble, wood, nut hulls, corncobs, or cotton hulls).

4. All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil impermeable liner.

5. Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

6. As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will report all emissions or releases that may pose a risk of harm to human health or the environment, regardless of a substance's status as exempt or nonexempt and regardless of fault, to the BLM WRFO (970) 878-3800.

7. As a reasonable and prudent lessee/operator and/or right-of-way holder in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator or right-of-way holder fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the BLM WRFO may take measures to clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

8. Final abandonment of pipelines and flowlines will involve flushing and properly disposing of any fluids in the lines. Lines that are buried close to the surface that may become exposed due to water or wind erosion, soil movement, or anticipated subsequent

use, must be removed. Deeply buried lines may remain in place unless otherwise directed by the Authorized Officer.

RANGELAND MANAGEMENT

Affected Environment: All three pads and associated pipelines occur on private (Encana's) land that is currently grazed from June through mid-October by cattle owned by the Piceance Creek Ranch. There is no BLM administered land in this pasture and it is not currently considered as part of the BLM administered grazing allotment (Piceance Creek Allotment #02789). This pasture contains approximately 17,250 acres with a conservative carrying capacity estimate of 690 AUMs (An AUM is the amount of forage required to maintain a cow and calf for a one month period). The estimated carrying capacity is based on 25 acres per AUM to account for areas less suitable for grazing (due to slope and distance to water).

Rangeland Improvements: There are no rangeland improvement projects that would be affected by the Proposed Action.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: Until pipeline construction disturbances are successfully reclaimed there would be a short term loss of less than one AUM. After successful interim reclamation there would be a long-term (for the life of the pads) forage loss in the pasture totaling approximately one AUM. The forage loss within the pasture is far less than the annual fluctuation in forage production, and is not expected to result in any need for changes in livestock numbers or grazing periods. Reclamation of disturbed areas would likely offset the short-term forage loss in the pasture within two to three years through increased herbaceous production above current production levels.
If construction occurs during the period livestock are grazing in the area the noise and activity associated with construction could result in cattle avoiding the area during that period of intense development. There is potential for livestock to be injured or killed as a result of the increased vehicle traffic during construction.

Cumulative Effects: Agriculture, road development, and oil and gas development which have the potential to impact rangeland management would continue to occur. The Proposed Action would remove forage temporarily in the above mentioned grazing pasture. After project construction has been completed and grass/forb communities have returned the Proposed Action would contribute to broader grass/forb corridors that provide additional forage in the associated area.

Environmental Consequences of the No Action Alternative:

Direct and Indirect Effects: There would be no direct and/or indirect effects to rangeland management under the No Action Alternative.

Cumulative Effects: Activities associated with agriculture, road development, and oil and gas development would continue to occur in the area, which has the potential to impact rangeland management by removal of forage, impacts to range improvements, etc.

Mitigation:

1. The operator should coordinate with the livestock grazing lessee (Piceance Creek Ranch) a minimum of 72 hours prior to commencing construction activities associated with this permit. Livestock grazing permittee contact information may be found at www.blm.gov/ras/ or by contacting the WRFO Range staff (970-878-3800). The operator should provide the grazing lessee the location, nature, and extent of the anticipated activity to be completed.

FLOODPLAINS, HYDROLOGY, AND WATER RIGHTS

Affected Environment: Drainage patterns around the pad site, stormwater and the improved access roads have been considered in the designs submitted with the surface use plans for the SG E34 496 and SG L27 496 well pads. Final plans for SG F22 496 have not been submitted, but preliminary designs have been reviewed. The SG E34 496 and SG L27 496 well pads, access road and buried pipeline to service well pads would disturb the top of steep ridges. Alternatively, the SG F22 496 would disturb soils in a drainage bottom. BLM actions or authorizations affecting surface water will be conducted in compliance with state and federal laws including section 404 permit requirements from US Army Corp of Engineers (ACOE). Executive Order 11988 requires BLM to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

Environmental Consequences of the Proposed Action:

Direct and Indirect Effects: EnCana has included estimates for freshwater use and the potential sources and water rights planned to supply this freshwater. Since freshwater use would be within existing valid water rights no impacts are expected to other water rights in Piceance Creek or the Colorado River.

There were two alternatives considered but not were not analyzed in detail that would have located the SG F22 496 pad out of the drainage, but due to important sage grouse habitat on Barnes and Short Ridges it was determined that these sites did not represent a practicable alternative. When field design requirement necessitate infrastructure in floodplains it should be designed in such a way to minimize alterations of natural channel and floodplain conditions. When neither of these goals is possible or fully effective the infrastructure in the floodplain should be designed to minimize impacts, allow for mitigation of impacts, and restore the natural conditions after occupancy. Since there is not a final design for this pad, impacts to floodplains cannot be adequately assessed. There are several pieces of information that should be submitted for review by the BLM, but assuming minimum design features are implemented as described in the mitigation section, the direct and indirect effects can be determined.

Direct impacts to floodplains from the SG F22 496 pad would be to constrain the floodplain near the pad site during storm events. This will likely increase the velocity of waters conveyed in an engineered channel or culverts depending on the design approach that EnCana uses for the pad. The most constrain could be expected when the pad is the largest during drilling. Assuming adequate engineering is employeed the 10-year event should pass through the pad site without

damage. There may be some changes to sediment depositional areas moving some of these areas downstream. The 25-year event may cause minor damage that can be repaired easily but should not result in damage to infrastructure or result in a major construction or clean-up effort. Once the pad goes into interim reclamation the 50-year storm should pass without washing out the road or inundating the production equipment. Final reclamation should approximate original contours in a stable and non-erosive setting and there should be no long-term impacts to the floodplain after the original channel is re-constructed and stabilized.

Cumulative Effects: Well pads in the general area 5th-Level Hydrologic Unit Code named the Headwaters of Piceance Creek are within the Mesaverde Play Area and are likely to have 2-3 multiple well pads per section. Exploratory wells would include surface disturbance for well pads, pipelines, roads and support facilities. Extensive development of oil is foreseeable. Livestock grazing and dispersed recreation occurs on public and private lands in the area and these activities may reduce canopy cover and lead to localized erosion in some reclamation areas. No other impacts other than oil and gas development, livestock and reclamation are expected in the headwaters of Piceance Creek. In general, soil disturbance in the Proposed Action and other activities are likely to reduce soil productivity and may lead to increased erosion and increased salt or sedimentation loading.

Direct and Indirect Effects: Floodplains, water rights, hydrology would not be impacted by the no-action alternative.

Cumulative Effects: Impacts would be similar to those described for the action alternative, but would not include the impacts from the Proposed Action.

Mitigation: The following should be added as COAs:

1. EnCana will submit a pad design to BLM for review and approval prior to constructing the SG F22 496 pad. The following elements should be included in this plan:
    a. Calculate peak streamflow discharge events for the 10, 25, 50 and 100 year events for the watershed above the location of the infrastructure and describe the design considerations to accommodate the streamflow discharges calculated. Based on BLM guidance, the 10 year event should pass without erosion; the 25 year event should pass without failure. The 50 and 100 year events should be calculated for risk analysis and the ability of design to address these larger events with minimal failure if they occur.
    b. The method for calculating peak flow events should be adequately described including any assumptions that are made.
    c. The design should consider elevation and long-term footprint of any infrastructure, especially tanks, pits and the storage of fluids and how the disturbance would respond to the peak flow events calculated for the site.
    d. The design should be approved by a professional engineer certified in the State of Colorado and they should also confirm the hydrologic modeling and design features.

e. Plats that show the drilling, interim and final designs should be included in the surface use plan that describe all design elements determined for the pad design that meet BLM guidance.

2. EnCana will show in their Proposed Action and surface use plans that ACOE Section 404 requirements have been considered and complied with. Features such as drilling pads that are considered non-linear features and that are likely to exceed minimums for minor discharges based on fill estimates, may require an individual permit and not a nationwide permit. EnCana should file a courtesy notification with the ACOE that details EnCana's reasoning for why this pad should not have an individual permit or file a pre-construction notification for an individual permit.
3. Copies should be given to BLM of all correspondence with ACOE including courtesy notifications, permits applied for and permits issued that are relevant to BLM permitted activities, this includes projects accessing Federal minerals on private lands. This will allow BLM to document ACOE compliance.

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TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED: Colorado Parks and Wildlife

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility	Date Signed
Bob Lange	Hydrologist	Air Quality; Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Soils	5/29/2013
Baili Foster	Ecologist Intern	Areas of Critical Environmental Concern; Special Status Plant Species	5/7/2013
Heather Woodruff	Rangeland Management Specialist	Forest Management	5/8/2013
Michael Wolfe	Archaeologist	Cultural Resources; Native American Religious Concerns	5/16/2013

Name	Title	Area of Responsibility	Date Signed
Michael Selle	Archaeologist	Paleontological Resources	2/13/2013
Mary Taylor	Rangeland Management Specialist	Invasive, Non-Native Species; Vegetation; Rangeland Management	5/23/2013
Ed Hollowed	Wildlife Biologist	Migratory Birds; Special Status Animal Species; Terrestrial and Aquatic Wildlife; Wetlands and Riparian Zones	5/22/2013
Jay Johnson	Natural Resource Specialist	Hazardous or Solid Wastes	2/26/2013
Aaron Grimes	Outdoor Recreation Planner	Wilderness; Visual Resources; Access and Transportation; Recreation,	5/21/2013
Scott Nilson	Fuels Specialist	Fire Management	5/13/2013
Paul Dagget	Mining Engineer	Geology and Minerals	5/24/2013
Stacey Burke	Realty Specialist	Realty	5/20/2013
Melissa J. Kindall	Range Technician	Wild Horse Management	5/1/2013
Brett Smithers	Natural Resource Specialist	Project Lead – Document Preparer	6/3/2013

ATTACHMENTS:

Figure 1 – Map of EnCana's MDP Area with Existing and Proposed Pipelines

Figure 2 – Map of EnCana's MDP Area Greater Sage-grouse Occupied Habitat - Existing and Proposed Pipelines and Proposed Roads

Figure 3 – Map of EnCana's MDP Area with Existing and Proposed Pipelines and Existing and Proposed Access Roads

Figure 4 – Map of EnCana's SG E34 496 Proposed Pipelines

Figure 5 – Big Jimmy Unit and Project Area Location of Development within the WRFO

Figure 1 – Map of EnCana's MDP Area with Existing and Proposed Pipelines

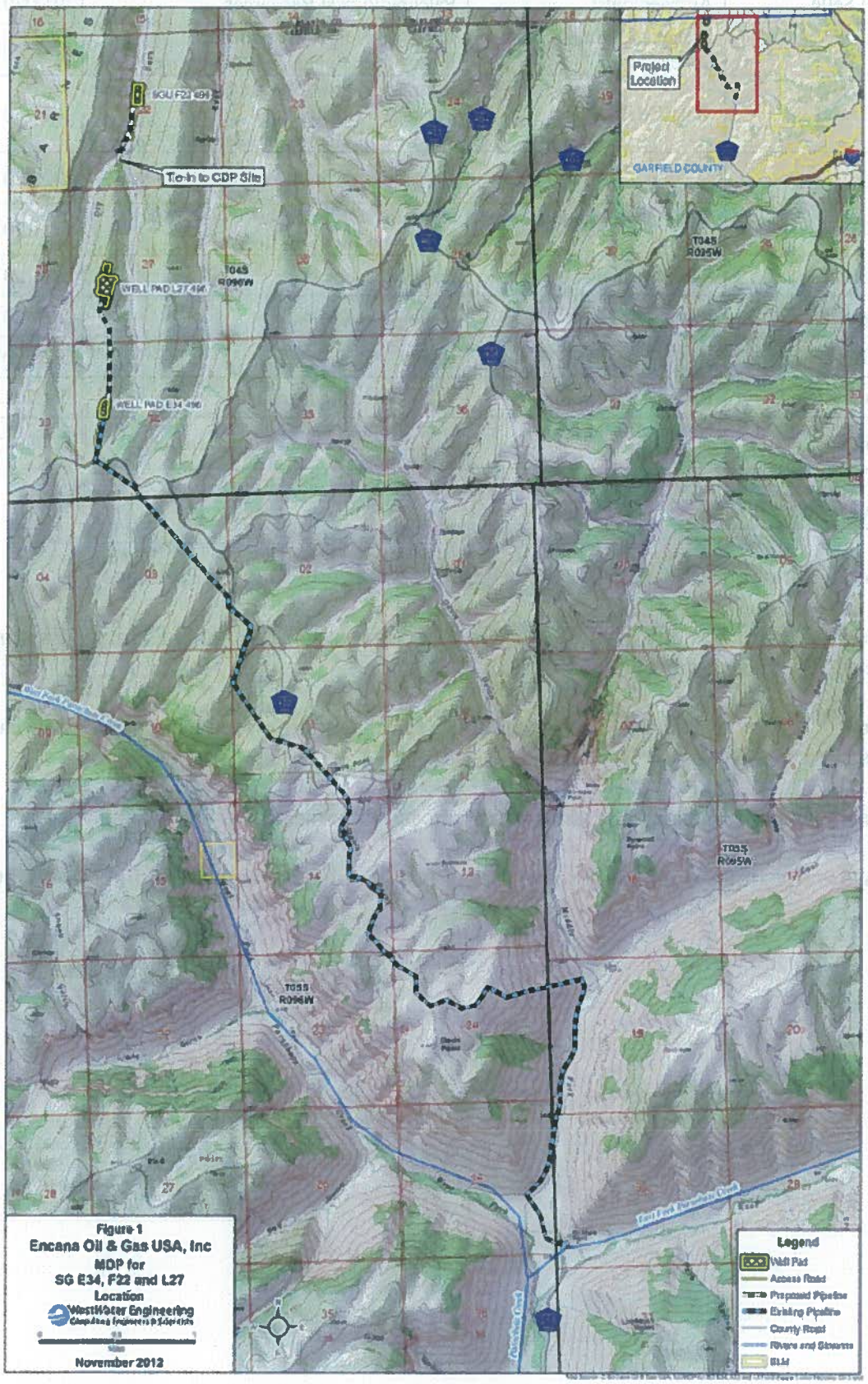


Figure 2 – Map of EnCana's MDP Area Greater Sage-grouse Occupied Habitat - Existing and Proposed Pipelines and Proposed Roads

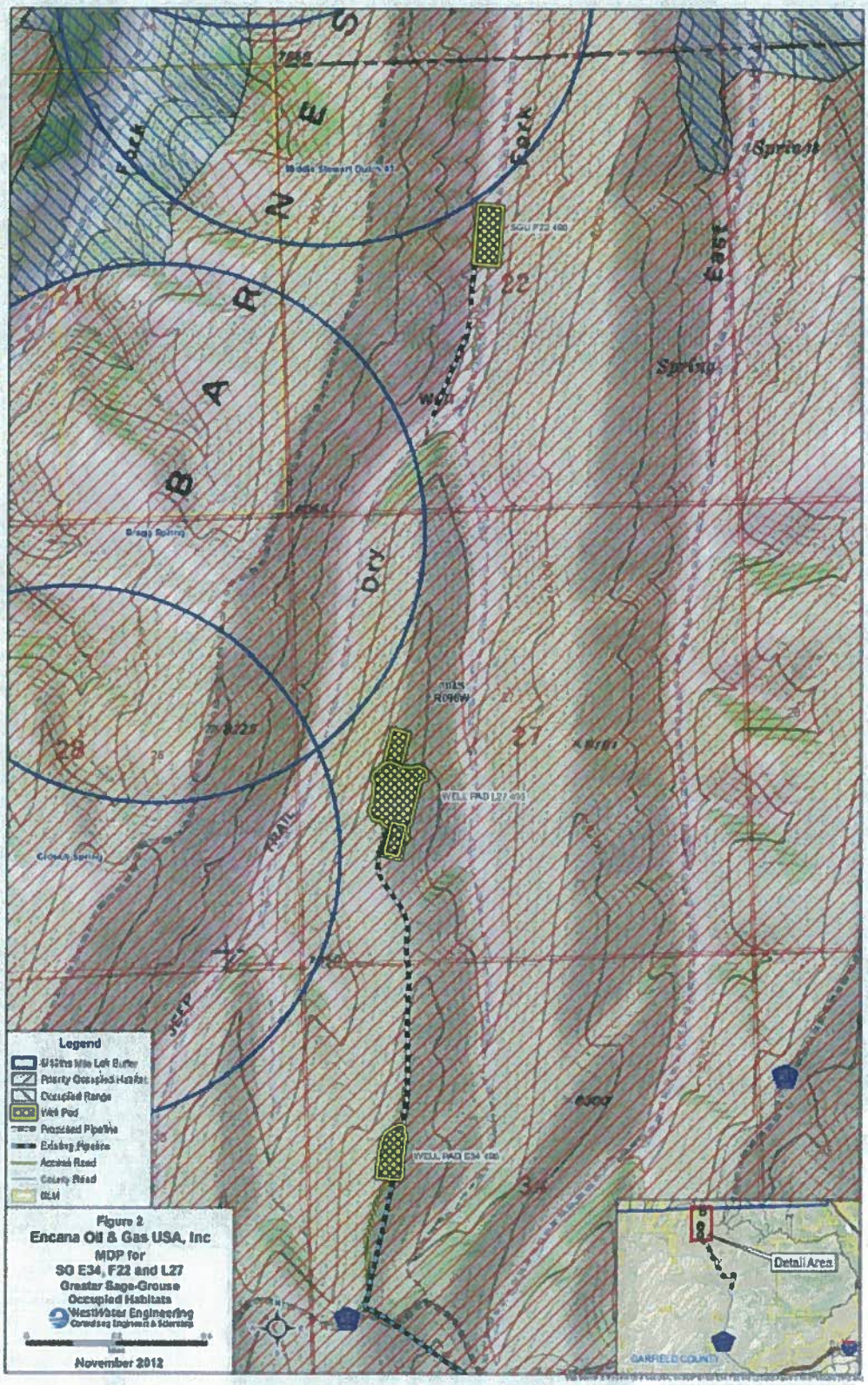


Figure 3 – Map of EnCana's MDP Area with Existing and Proposed Pipelines and Existing and Proposed Access Roads

Figure 4 – Map of EnCana's SG E34 496 Proposed Pipelines

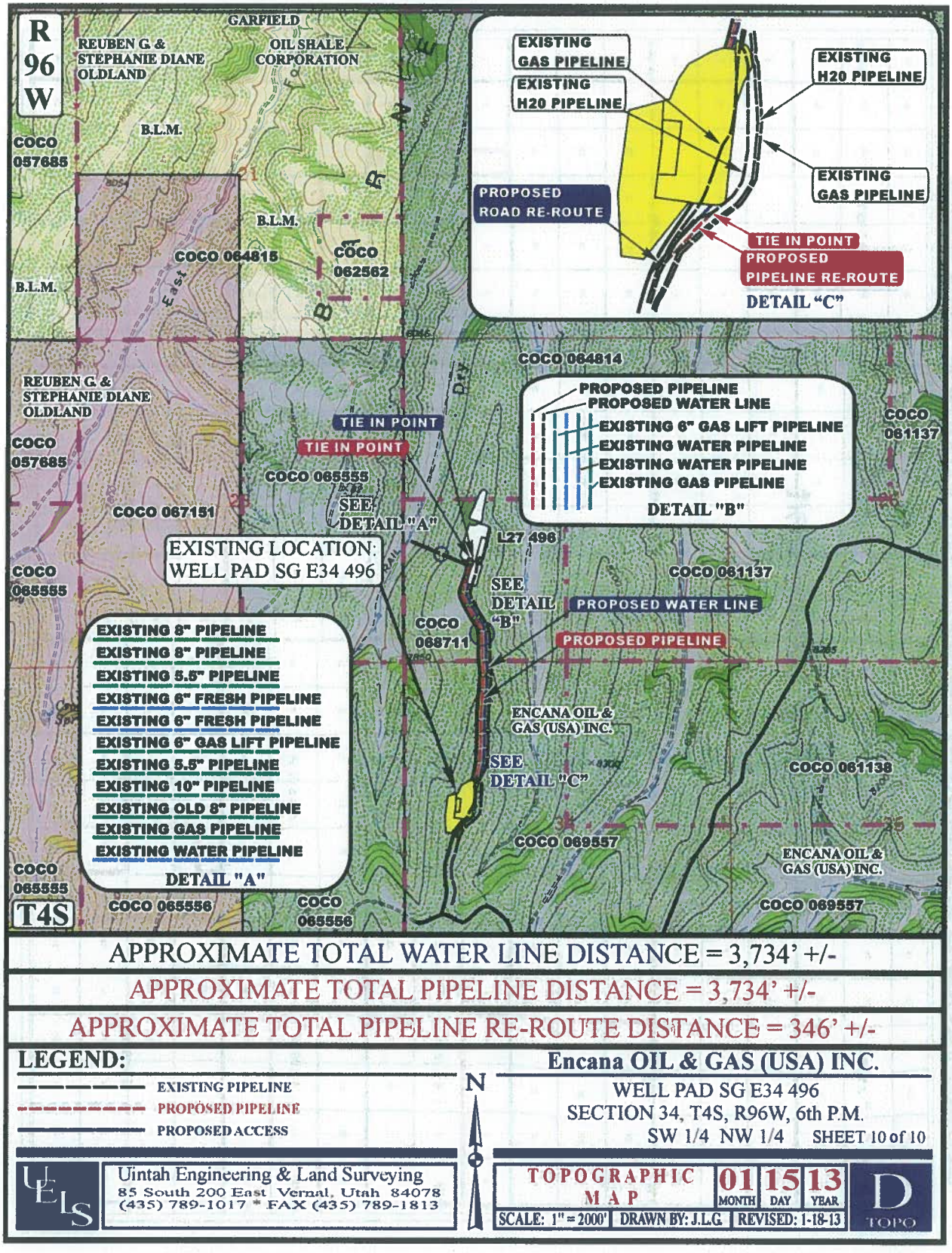
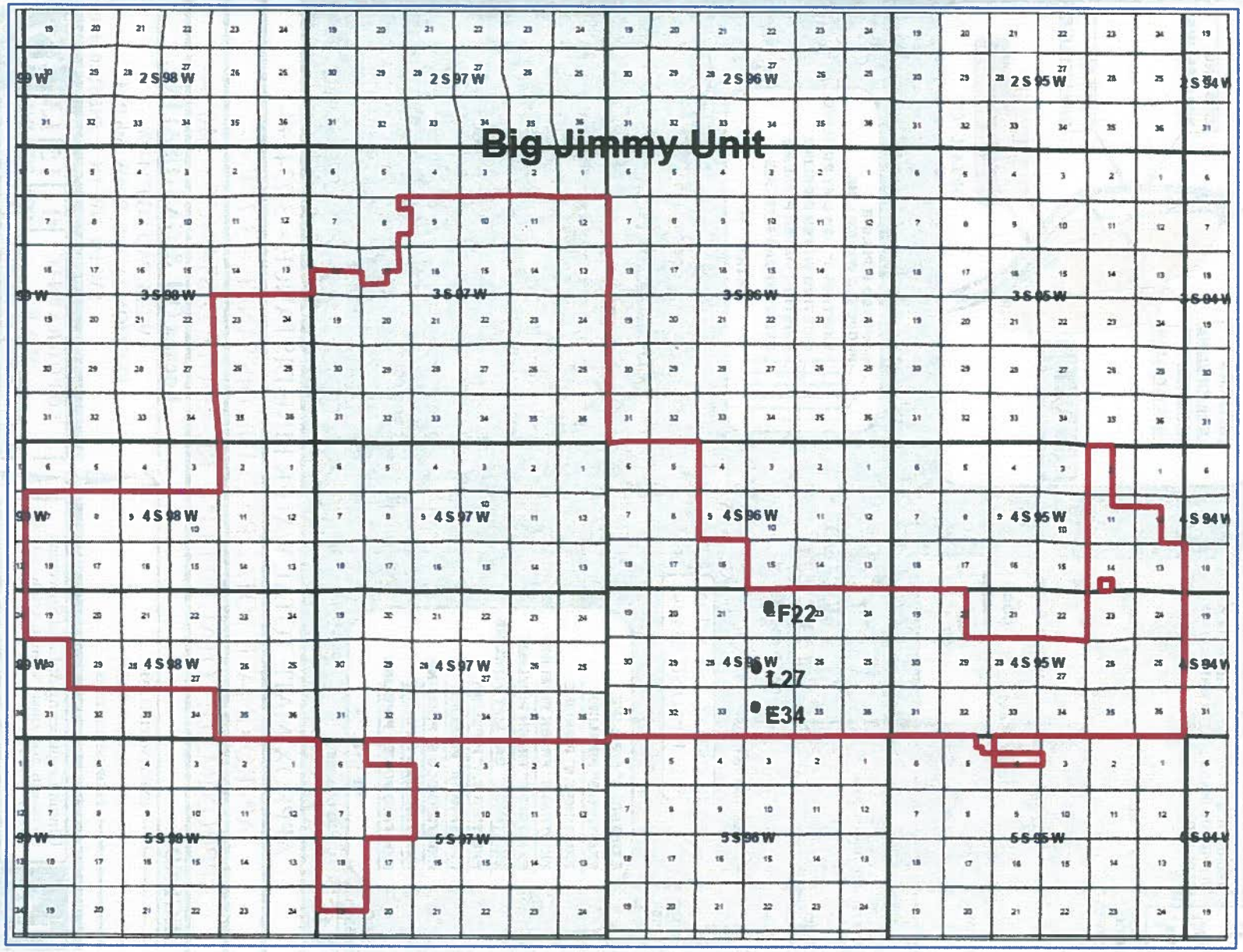


Figure 5 – Big Jimmy Unit and Project Area Location of Developent within the WRFO



U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

Finding of No Significant Impact (FONSI)

DOI-BLM-CO-110-2013-0035-EA

BACKGROUND: EnCana has proposed a five year oil and gas development project that would be located approximately 18 miles north of Parachute, Garfield County, Colorado. The proposal, known as the SG E34 496, SG L27 496, and SG F22 496 Master Development Plan (MDP), includes three proposed well pads, adjoining roads, and pipelines which would be located within the Big Jimmy Unit.

FINDING OF NO SIGNFICANT IMPACT: Based on the analysis of potential environmental impacts contained in the attached environmental assessment, and considering the significance criteria in 40 CFR 1508.27, I have determined that the Proposed Action will not have a significant effect on the human environment. An environmental impact statement is therefore not required.

Context

The project is a site-specific action directly involving BLM administered public lands that do not in and of itself have international, national, regional, or state-wide importance. The lease area has been extensively developed for purposes of oil and gas exploration, extraction and development, and anthropogenic disturbance (e.g., well pads, pipeline corridors, and other oil and gas infrastructure) are the dominant disturbance within the lease.

Intensity

The following discussion is organized around the 10 Significance Criteria described at 40 CFR 1508.27. The following have been considered in evaluating intensity for this Proposed Action:

1. Impacts that may be both beneficial and adverse.

The site location for the proposed well has been described as having a component of invasive, annual cheatgrass. Proper and effective implementation of the proposed reclamation techniques could increase plant diversity. While potentially harmful chemicals and additives may be used during drilling and completions operations, there is a possibility they could be released in volumes that could adversely affect human health or the environment; however, the proponent provides for safe containment and disposal of each type of potential waste, and the use of these materials are expected to enhance the beneficial recovery of the natural gas resource.

2. The degree to which the Proposed Action affects public health or safety.
There would be no impact to public health and safety if the safety measures described in the operator's drilling plan and SUP are properly implemented, and the developed mitigation is adhered to.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. No wetlands, prime farmlands, parklands, or scenic rivers occur in the project area. A Class III Cultural Resource inventory identified no eligible cultural resources in the proposed areas of disturbance.

4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial. No comments or concerns have been received regarding possible effects on the quality of the human environment during the public comment period.

5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk. No highly uncertain or unknown risks to the human environment were identified during analysis of the Proposed Action.

6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
The Proposed Action neither establishes a precedent for future BLM actions with significant effects nor represents a decision in principle about a future consideration. Similar proposals to drill have been evaluated and approved, so authorization to drill the proposed well would not set a precedent for future actions.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Rangeland used for livestock grazing has been described as populated with cheatgrass; implementation of the Proposed Action alone would not substantially contribute to the quality of the rangeland resources but an increase in construction-related oil and gas activities (reasonable but not yet proposed or speculated for the project area) could cumulatively result in irreversible changes to plant species composition.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. A Class III inventory identified no new cultural resources in the proposed project area. Mitigation for cultural resources that may be exposed due to natural weathering has been provided.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973. No special status plant species concerns have been identified. Cumulative water depletions from the Colorado River Basin are considered likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker and result in the destruction or adverse modification of their critical habitat. In 2008, BLM prepared a Programmatic Biological Assessment (PBA) that addressed water depleting activities

associated with BLM's fluid minerals program in the Colorado River Basin in Colorado, including water used for well drilling, hydrostatic testing of pipelines, and dust abatement on roads. In response, the U.S. Fish and Wildlife Service (FWS) prepared a Programmatic Biological Opinion (PBO) that addressed water depletions associated with fluid minerals development on BLM lands. The PBO included reasonable and prudent alternatives which allowed BLM to authorize oil and gas wells that result in water depletion while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. The reasonable and prudent alternative authorized BLM to solicit a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in an amount based on the average annual acre-ft depleted by fluid minerals activities on BLM lands. This contribution was ultimately provided to the Recovery Program through an oil and natural gas development trade association. Development associated with this project would be entered into the WRFO fluid minerals water depletion log that is submitted to the Colorado State Office at the end of each Fiscal Year.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.
Neither the Proposed Action nor impacts associated with it violate any laws or requirements imposed for the protection of the environment.

SIGNATURE OF AUTHORIZED OFFICIAL: Kent T. Walter
Field Manager

DATE SIGNED: 06/07/13

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
220 E Market St
Meeker, CO 81641

DECISION RECORD

PROJECT NAME: EnCana Oil and Gas MDP (SG E34 496, SG L27 796 and SG F22 496)

ENVIRONMENTAL ASSESSMENT NUMBER: DOI-BLM-CO-2013-0035-EA

DECISION: It is my decision to implement the Proposed Action as mitigated in DOI-BLM-CO-110-2013-0035-EA, authorizing the construction, operation, and maintenance of EnCana's proposed SG E34 496, SG L27 796 and SG F22 496 well pads.

MITIGATION: The operator has agreed to implement the following Applicant Committed Design Features:

Reclamation: The revegetation contractor is responsible for sediment and pollution discharge control for preconstruction, construction, and reclamation activities. This includes, but is not limited to sediment removal from bar ditches, sediment traps, culvert inlets and culvert outlets. The following reclamation practices will be implemented:

1. Finish grading, drainage, and stormwater control and soil preparation per Stormwater Site Plans, including but not limited to, topsoil conservation/topsoil segregation, windrow, surface roughening, land-forming/land grading and water bars.

2. Seed bed preparation: topsoil will be ripped to remove compaction up to a depth of 12 inches.

3. Hydraulic amendment, seed, erosion control blanket and erosion control mulch applications.

4. Broadcast amendments, drill seeding and certified weed free straw crimping on slopes 2.5:1 or less.

5. Hydraulic amendment, seed and erosion control mulch applications on remaining areas and any areas found to be deficient.

6. Seeding contractor is responsible for acquiring straw that is harvested in a manner to reduce volunteer winter wheat. Wood mulch will also be considered.

7. In cases of winter wheat germination above 30 percent canopy cover, it is the seeding contractor's responsibility to ensure the winter wheat does not go to head or compete

with the desired species. If there is more winter wheat than desirable species, reseeding will be required.

8. If for some reason EnCana decides to abandon the pipeline during final reclamation it would be cut and capped. The pipeline would be left in place to avoid causing surface disturbance.

Greater Sage-grouse Protection Measures:

1. Raptor perch deterrents would be installed on cross arms of power poles and other documented raptor perches, such as radio towers where birds are noted to perch.

2. Monitor all structures exceeding six feet in height for the presence of perching raptors or ravens.

3. Reasonable efforts would be made to organize transportation and access routes that minimize traffic volumes and avoid suitable sagebrush habitats to the greatest extent practicable.

4. Upon completion of new disturbance, EnCana would leave the new disturbance area undisturbed for a minimum of two, and preferably three, full sage-grouse Critical Habitat Seasons (April 15th to August 1st) during which no new disturbance would be conducted.

5. A 0.6 mile radius "No Disturbance" buffer would be applied around active lek sites (documented activity within the last 5 years) from 5:00 a.m. to 9:00 a.m., March 15th through May 15th.

6. Where practicable, traffic and other disturbances would be restricted after sunset when sage-grouse are congregating around the lek until 9:00 a.m. the following morning when birds depart the lek site.

7. A 0.6 mile "Restricted Surface Occupancy" buffer would be applied for active lek sites.

8. A "Restricted Surface Occupancy" buffer would be applied to all forms of new disturbance that would alter the vegetative structure or topography or would result in the addition of surface structures.

9. The BLM would be notified of any new disturbance within the "Restricted Surface Occupancy" buffer.

10. Site disturbance would use topographic features whenever possible to shield leks from new disturbance.

11. In occupied sage-grouse habitat well site visitation would be restricted to occur between the hours of 9:00 a.m. and 4:00 p.m. during the lekking season (March 15th to May 15th).

12. Pipeline construction and installation would be scheduled outside the Critical Habitat Season.

13. New disturbance would be restricted within nesting and brood-rearing habitat as much as possible from April 15th to July first.

14. Well maintenance will not be considered new disturbance, but would be minimized to the extent practicable during the Critical Habitat Season.

15. EnCana would provide the CPW and BLM notice of well maintenance and would maintain records of these operations.

16. Multiple rig moves would not occur simultaneous; however, EnCana would use reasonable efforts to schedule rig moves outside of the Critical Habitat Season.

17. Interim reclamation would be completed as quickly as possible to redevelop ground cover that provides for secure ground movements of sage-grouse and is an effective precursor to the reestablishment of appropriate sagebrush cover.

18. Disturbances exceeding 15 feet in width in mapped sage-grouse priority occupied habitat would be reseeded with local sagebrush seed, where topography and weather conditions allow safe access to do so. Detailed guidelines and practices for interim and final reclamation are outlined in EnCana's NPR Integrated Vegetation Management Guidance (WWE 2009).

Other Wildlife: EnCana will continue to implement their wildlife mitigation plan for the NPR.

1. EnCana will perform biological site surveys (on-site) for each new development, using the most recent data sets for wildlife and aquatic resources.

2. EnCana will conduct regular contractor and employee training with respect to wildlife awareness.

3. Simultaneous drilling and completion activities to shorten the disturbance time necessary to drill, complete, and bring the pad to production.

4. Appropriate fencing and netting on temporary fluid pits for the purpose of excluding wildlife. When water quality may allow the propagation of mosquitoes, then fresh water storage pits would be treated wtih biological mosquito controls (from June through September).

5. All production equipment with a chimney, vent, or stack would be fitted with a device to prevent birds from entering the space.

6. Trench plugs (sloped to allow wildlife or livestock to exit the open pipeline trenches

should they enter) at known wildlife or livestock trails to allow safe crossing on long spans of open trench.

7. Avoid disturbance to big game (American elk and mule deer) production areas (from April 15 to July 15) and winter range (January 1 to April 15) wherever possible; however, this will be a secondary consideration to preserving sage-grouse habitat.
8. Trash would be contained in enclosed, locking garbage receptacles or implement a strict daily trash removal regime on each temporary or permanent work location.

In addition to the Applicant Committed Design Features listed above, the following mitigation has been identified:

1. EnCana will limit unnecessary emissions from point or nonpoint pollution sources and prevent air quality deterioration from necessary pollution sources in accordance with all applicable state, federal and local air quality law and regulation.

2. EnCana will treat all access roads with water and/or a chemical dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. Any technique other than the use of freshwater as a dust suppressant on BLM lands will require prior written approval from BLM.

3. To protect surface waters below the project area, keep road inlet and outlet ditches, sediment retention basins, and culverts free of obstructions, particularly before and during spring run-off and summer convective storms. Provide adequate drainage spacing to avoid accumulation of water in ditches or on road surfaces.

4. Install culverts and low-water crossings with adequate armoring of inlet and outlet. Patrol areas susceptible to road or watershed damage during periods of high runoff.

5. Locate drainage dips and drainage ditches in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or dips.

6. To reduce erosion adjacent to roads and protect water quality in downstream public lands by maintaining the drainage features of the access roads, access roads will be surfaced with six inches of road base and/or gravel. Maintenance will include restoring the travel surface shape, road surfacing to maintaining an effective all-weather surface during drilling and production of the wells.

7. When drilling to set the conductor and surface casing, drilling fluid will be composed only of fresh water, bentonite, and/or a benign lost circulation material that does not pose a risk of harm to human health or the environment (e.g., cedar bark, shredded cane stalks, mineral fiber and hair, mica flakes, ground and sized limestone or marble, wood, nut hulls, corncobs, or cotton hulls).

8. Stockpiled topsoil and spoil piles should be separated and clearly labeled to prevent mixing during reclamation efforts.

9. Woody material should not be included within the topsoil piles, but should be piled separately in a manner that avoids windrowing and large piles of material.

10. Final reclamation of pipelines including seeding should commence immediately after completion of pipeline construction. However, spreading of topsoil and application of seed should be deferred until the next appropriate seeding dates (September 1 through March 15). Drill seeding is the preferred method of application.

11. Where it is apparent that livestock use will hamper reclamation efforts of pads and pipeline areas in terms of vegetation establishment it is recommended to build fences around reclaimed areas. Appropriate pass-through areas should be provided in pipeline fences to allow livestock and wildlife to traverse through the general area. Fences should be maintained by Encana and upon achieving reclamation success fences should be removed.

12. The reclamation success criteria should result in a minimum cover and composition of 80 percent of the Desired Plant Community (as defined by the ecological site, in an early seral state) or in relation to the seed mix applied within three growing seasons after the application of seed. This community should be capable of persisting on the site without intervention and allow for successional processes consistent with achieving the seral stage on the site prior to surface disturbance. Reclamation achievement should be evaluated using the Public Land Health Standards that include Indicators of Rangeland Health.

13. The operator should eliminate any noxious plants before seed production occurs. The operator should clean all off-road equipment to remove seed and soil prior to commencing operations within the project area.

14. In order to minimize the potential for invasion of noxious and invasive species, the operator should attain sufficient cover of native reclamation species (similar to that of nearby undisturbed native plant communities in a healthy early-seral state).

15. Vehicle access associated with construction of and development on the F22, E34, and L27 locations, including access roads and pipelines, will not be allowed on the Barnes Ridge road except in the case of emergency.

16. The applicant will make efforts to muffle and redirect noise emanating from on-site compression facilities (if used) in a manner that would substantially reduce noise-reception from occupied sage-grouse habitats on adjacent ridgelines (for example, using heavy side-slope vegetation and distance to attenuate noise and considering prevailing winds to align residual transmission down-canyon for F22, downwards NNE into canyon for E34/L27).

17. The applicant will use the lowest intensity lights that safety requirements will allow and make efforts to shield fixtures to reduce the intensity of light visible from adjacent ridgeline habitats.

18. BLM recommends that the interim and final reclamation seed mix for this project refrain from the use of deciduous shrubs (i.e., Utah serviceberry, Wood's rose, and snowberry). Optional forb components that best meet the nutritional demands of grouse broods should be considered a priority, including sulphur flower, Utah sweetvetch, and yarrow. Due to general absence or tendency to naturally recolonize disturbed sites in the project locale, the use of lupine and, especially, white sage should be avoided.

19. The project area represents suitable and occupied nest habitat that is subject to White River ROD/RMP-approved timing limitations designed to reduce disruption of nest and early brood activities of sage-grouse. These measures, which cannot be practically applied to year-round drilling practices, can be 'excepted' by the WRFO Manager pending coordination with the CPW. Based on this analysis, this circumstance warrants an exception to BLM White River ROD/RMP TL-06-Timing Limitation for Sage Grouse Nest Habitat.

20. In order to reduce the largest potential source of inadvertent direct and indirect mortality of migratory bird eggs and nestlings, vegetation clearing required for the F22 location, pipeline, and access road should be deferred as late into the nesting season as possible, but activity would not be expected to be delayed for this reason beyond 15 July.

21. The permittee is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

22. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery will cease, and the BLM WRFO Archaeologist will be notified immediately. Work may not resume at that location until approved by the Authorizing Official (AO). The applicant will make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, BLM will evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The applicant, under guidance of the BLM, will implement the mitigation in a timely manner. The process will be fully documented in reports, site forms, maps, drawings, and photographs. The BLM will forward documentation to the SHPO for review and concurrence.

23. Pursuant to 43 CFR 10.4(g), the permittee must notify the AO, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the permittee must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

24. BLM recommends the operator paint all aboveground facilities Juniper Green from the BLM Standards Environmental Color Chart CC-001: June 2008.

25. Comply with all Federal, State and/or local laws, rules and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment. All spills or leakages of oil, gas, produced water, toxic liquids or waste materials, blowouts, fires, shall be reported by the operator in accordance with the regulations and as prescribed in applicable orders or notices.

26. Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the BLM WRFO.

27. When drilling to set the surface casing, drilling fluid will be composed only of fresh water, bentonite, and/or a benign lost circulation material that does not pose a risk of harm to human health or the environment (e.g., cedar bark, shredded cane stalks, mineral fiber and hair, mica flakes, ground and sized limestone or marble, wood, nut hulls, corncobs, or cotton hulls).

28. All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil impermeable liner.

29. Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

30. As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will report all emissions or releases that may pose a risk of harm to human health or the environment, regardless of a substance's status as exempt or nonexempt and regardless of fault, to the BLM WRFO (970) 878-3800.

31. As a reasonable and prudent lessee/operator and/or right-of-way holder in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator or right-of-way holder fails, refuses or neglects to

provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the BLM WRFO may take measures to clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

32. Final abandonment of pipelines and flowlines will involve flushing and properly disposing of any fluids in the lines. Lines that are buried close to the surface that may become exposed due to water or wind erosion, soil movement, or anticipated subsequent use, must be removed. Deeply buried lines may remain in place unless otherwise directed by the Authorized Officer.
33. The operator should coordinate with the livestock grazing lessee (Piceance Creek Ranch) a minimum of 72 hours prior to commencing construction activities associated with this permit. Livestock grazing permittee contact information may be found at www.blm.gov/ras/ or by contacting the WRFO Range staff (970-878-3800). The operator should provide the grazing lessee the location, nature, and extent of the anticipated activity to be completed.
34. EnCana will submit a pad design to BLM for review and approval prior to constructing the SG F22 496 pad. The following elements should be included in this plan:
    a. Calculate peak streamflow discharge events for the 10, 25, 50 and 100 year events for the watershed above the location of the infrastructure and describe the design considerations to accommodate the streamflow discharges calculated. Based on BLM guidance, the 10 year event should pass without erosion; the 25 year event should pass without failure. The 50 and 100 year events should be calculated for risk analysis and the ability of design to address these larger events with minimal failure if they occur.
    b. The method for calculating peak flow events should be adequately described including any assumptions that are made.
    c. The design should consider elevation and long-term footprint of any infrastructure, especially tanks, pits and the storage of fluids and how the disturbance would respond to the peak flow events calculated for the site.
    d. The design should be approved by a professional engineer certified in the State of Colorado and they should also confirm the hydrologic modeling and design features.
    e. Plats that show the drilling, interim and final designs should be included in the surface use plan that describe all design elements determined for the pad design that meet BLM guidance.
35. EnCana will show in their Proposed Action and surface use plans that ACOE Section 404 requirements have been considered and complied with. Features such as drilling pads that are considered non-linear features and that are likely to exceed minimums for minor discharges based on fill estimates, may require an individual permit and not a nationwide permit. EnCana should file a courtesy notification with the ACOE that details EnCana's reasoning for why this pad should not have an individual permit or file a pre-construction notification for an individual permit.

36. Copies should be given to BLM of all correspondence with ACOE including courtesy notifications, permits applied for and permits issued that are relevant to BLM permitted activities, this includes projects accessing Federal minerals on private lands. This will allow BLM to document ACOE compliance.

Because the proposed well locations are on fee surface the BLM can, in the interest of science, recommend, but not require, the mitigation below. Any fossils recovered would remain the property of the landowner unless donated to a museum or university.

37. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.

38. If any paleontological resources are discovered as a result of operations under this authorization, the operator or any of his agents must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

39. Any excavations into the underlying native sedimentary stone must be monitored by a permitted paleontologist. The monitoring paleontologist must be present before the start of excavations that may impact bedrock.

COMPLIANCE WITH LAWS & CONFORMANCE WITH THE LAND USE PLAN

This decision is in compliance with the Endangered Species Act and the National Historic Preservation Act. It is also in conformance with the 1997 White River Record of Decision/Approved Resource Management Plan.

ENVIRONMENTAL ANALYSIS AND FINDING OF NO SIGNIFICANT IMPACT

The Proposed Action was analyzed in DOI-BLM-CO-2013-0035-EA and it was found to have no significant impacts, thus an EIS is not required.

PUBLIC INVOLVEMENT

Scoping was the primary mechanism used by the BLM to initially identify issues. Internal scoping was initiated when the project was presented to the White River Field Office on (WRFO) interdisciplinary team on 1/29/2013. External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on 6/6/2013.

RATIONALE

Analysis of the Proposed Action has concluded that there are no significant negative impacts and that it meets Colorado Standards for Public Land Health.

ADMINISTRATIVE REMEDIES

State Director Review

Under regulations addressed in 43 CFR 3165.3(b), any adversely affected party that contests a decision of the Authorized Officer may request an administrative review, before the State Director, either with or without oral presentation. Such request, including all supporting documentation, shall be filed in writing with the BLM Colorado State Office at 2850 Youngfield Street, Lakewood, Colorado 80215 within 20 business days of the date such decision was received or considered to have been received. Upon request and showing of good cause, an extension may be granted by the State Director. Such review shall include all factors or circumstances relevant to the particular case.

Appeal

Any party who is adversely affected by the decision of the State Director after State Director review, under 43 CFR 3165.3(b), of a decision may appeal that decision to the Interior Board of Land Appeals pursuant to the regulations set out in 43 CRF Part 4.

SIGNATURE OF AUTHORIZED OFFICIAL: Kent E. Walter

Field Manager

DATE SIGNED: 06/07/13